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A Lecture
ON
THE TREATMENT OF DYSENTERY

Delivered before the Royal Society of Medicine on Dec 20th, 1915,

By Lieut-Colonel Sir RONALD ROSS, K C B, F R S,

RECENTLY CONSULTING PHYSICIAN ON TROPICAL DISEASES MEDITERRANEAN EXPEDITIONARY FORCE.

Mr President and Gentlemen,—My object in this lecture is not to detail my own experiences and opinions upon the very large subject of the treatment of dysentery, so much as to elicit the experiences and opinions of the many medical men who are at present treating cases in Britain, in order that we may be able to compare notes, and, if possible, to consolidate our methods in this important branch of practice Fortunately, for some centuries past Britain has remained almost entirely free from this serious disease, and probably entirely free from the amœbic form of it, except in regard to patients who have been infected elsewhere The result has been that medical men in England have not been able themselves to collect experiences, and now perhaps find themselves called upon to treat large numbers of cases suffering from a malady with which they are not familiar But we must remember that nothing in the whole range of clinical practice requires greater experience, skill, and judgment than the treatment of dysentery in all its stages In fact, this subject has been almost the principal preoccupation of physicians in Egypt, Greece, and Italy and other warm climates for thousands of years

Treatment of Dysentery in the Past

In classical times the treatment, of course empirical, consisted largely of the use of oils, essential oils, wine, and dieting, not to mention some of the curious remedies which our predecessors were apt to advocate In what may be called the first work on tropical medicine—namely, that curious book "The Cures of the Diseases in Forraine Attempts of the English Nation," 1598, and recently republished by the Clarendon Press, and attributed to one George Wateson, who apparently gave his manuscript to Richard Hakluyt, we find the following instructions —

> To cure Las Cameras or Cameras de Sangre, which is the Bloodie Flux With the more expedition that medicine is ministred to the diseased of Cameras de Sangre, Laxativenes or Bloodie Flux there is the more possibilitie it should prevaile And detracting it, the Pacients often die suddenly without feeling much griefe For speedie and assured remedie thereof, the Pacients bodie must bee clensed of the slimines engendered in the passages of the nutriments, before anie sustenance can remaine in his bodie And for that purpose give to purge him in the morning, halfe a pint of white Wine coold wherin ½ ounce of Rubarb hath been sodden being small cut, putting in some Suger Candie to sweeten it And Immediately after he hath so purged, keepe at his navell Rosemarie sodden in strong Vinegar, applied in the morning and evening verie hot untill it be staied giving him often Quinces brused and rowled in Marmelet like Pils which hee should swallowe whole, and none of the Fruits, or meates before recited nor any more white wine but red wine of any sort And if it be on Land the livers of Goates (especiallie) Sheepe, or Bullocks rosted not willingly permitting the Pacient to eate any other meate And if at Sea, Rice only sodden in water rather than any thing else usuall there, untill the infirmitie is perfectly asswaged

Sydenham used to employ venesection followed by purgation and laudanum administered in a cordial, his treatment being based upon his pathogenical hypothesis that dysentery "is a fever turned inwardly on the bowels" Early last century calomel was much employed Morehead in the middle of last century still supported the use of blood letting and calomel but added ipecacuanha, and, of course, used blisters and fomentations

Ipecacuanha

The most important event in the history of the treatment of dysentery was the employment of ipecacuanha which was first advocated in 1600 and then described by Piso and Marcgraf in 1648 Later in the same century the Dauphin, son of Louis XIV, was successfully treated by Helvetius with ipecacuanha, which he had obtained from Brazil, and Helvetius obtained a great reputation by the use of the drug, which he kept a secret, though he was ultimately prevailed upon to disclose the secret for a sum of a thousand louis d'or Since then the fortunes of ipecacuanha have varied from time to time just as did the fortunes of cinchona bark At times vaunted as specifics, and at times condemned as useless, probably both drugs suffered much from being given in quite inadequate doses and for periods which were too short to compass complete cure The use of large dosage seems to have been revived by Balmain at the beginning of last century, just as the use of large dosage of quinine was revived by Maillot some years later. Balmain prescribed up to two drachms of the powder, with 60 drops of laudanum, and claimed that one or two of these doses were often sufficient to establish complete cure I am not sufficient of a medical historian to know whether the credit was due to him or to Docker, but it is often maintained that the latter was the first really to claim the rank and title of specific for ipecacuanha in dysentery—which was something to have done, and for which he received a special pension by the Government of India.

Experience of Dysentery in India

In the year 1881, when I entered the Indian Medical Service and went to Netley, ipecacuanha was certainly in high favour, and I remember the fine lectures on the subject given by Surgeon General McLean No one more strongly emphasised the wonderful powers of ipecacuanha, not only in dysentery, but as a preventive of hepatic abscess, even after the pus had begun to form I believe that all of his hearers (young men at the time) followed out his teaching in India afterwards He insisted upon massive dosage in spite of the frequent vomiting caused by it, and, so far as I remember, gave the drug the last thing at night on an absolutely empty stomach (if possible) and on a previous dose of opium At any rate this may also be described as the usual Indian treatment up to the days of emetine I suppose that there are few medical men in Indian practice who do not every day of their lives have under treatment at least half a dozen cases of acute or chronic dysentery, so that our experience was certainly large

Personally, I am a convinced believer in the specific value of ipecacuanha When I was staff surgeon at Bangalore I saw many cases of severe dysentery in officers returning from Burma and the Mofussil and never dreamed of treating such without this drug I remember particularly one such officer who was, we all thought, dying when brought in The first dose of ipecacuanha powder was vomited, but the second was retained, and the patient's recovery began next morning and was complete We used to repeat the ipecacuanha at least once a day for about a week or more in spite of vomiting, but, of course, patients often became habituated even to large doses in three or four days Later on I used to prefer giving opium every night, and the dose of ipecacuanha in bolus with a single mouthful of milk at about 4 o'clock in the morning, if a nurse to give it was available, and the patient was not allowed anything either to eat or to drink until about 9 A M I thought that with this method one daily dose sufficed Later in the case we used to combine 5 or 10 grains of tannic acid with the ipecacuanha, especially in cases of "running dysentery", but I believe that practice was generally opposed to the use of astringents until the disease had first been mastered by ipecacuanha Of course, in those days we did not know whether the dysentery was amœbic or bacillary, and gave ipecacuanha in both, and up to the present I am not by any means convinced that ipecacuanha is of no benefit in bacillary dysentery The extraordinary specific effect which it has upon the mucous membrane of the stomach and colon especially suggests that it may at least be partially destructive to the vegetable parasites as well as to the animal ones

I do not think that we used bismuth much in those days, nor calomel, nor the sulphates of sodium and magnesium And many of us were certainly opposed to enemata, at least in very new cases, as we thought that they were likely to have an irritating effect similar to that often produced by catheterisation Here, I admit, opinion differed largely, and I remember many cases in which enemata certainly did not kill the patient, although in acute cases they undoubtedly cause much depression and considerable pain I also remember a few cases in which I thought that ipecacuanha had stopped the progress of commencing hepatic abscess—and also some, I fear, in which it failed to do so

In cases of chronic dysentery—cases whom we often found extremely difficult to treat, and indeed who have often become chronic simply because they refuse the treatment advised by their medical attendants—ipecacuanha was often given daily for some weeks, was then remitted for another week or so, and commenced again, and so on There were many retired officers in Bangalore suffering from this disease and from sprue, and the difficulty of the physicians almost always lay in dealing with the patient as much as in dealing with the disease, and everyone knows the state of irritability and impatience to which chronic dysentery and sprue reduce their victims In *chronic* dysentery enemata were, of course, much more certainly used than in acute dysentery, and nitrate of silver was almost a classical drug for the purpose We heard nothing in those days of appendicostomy, but dieting was a science in itself, requiring not only the greatest skill of the clinician but an obedience in the patient which was seldom met with

INTESTINAL AMŒBÆ

So far as I can ascertain it was chiefly the work of Kartulis in Alexandria which first definitely incriminated intestinal amœbæ as pathogenic organisms, partly in consequence of his admirable and long continued clinical studies partly by his discovery of amœbæ in the sterile pus of hepatic abscess, and partly by his experiments on kittens This work was commenced about 1880 and was already progressing when Koch visited Alexandria in 1883 The previous studies of Lewis and Cunningham had led these workers to think that these organisms were merely pseudoparasites in men, though they (or rather the latter) thought they were true parasites in cattle, and Celli and Fiocca and other workers seemed inclined to support them As the result of my own studies in Bangalore, both on amœbæ and on the intestinal flagellates which abounded there, I felt almost convinced that all these organisms are, or at least may be, injurious to the host—and still think so It appears to me to be a very rash statement to make that any parasite is quite innocuous One might as well say that a grain of dust in a watch is harmless, because it does not always stop the mechanism Certainly amœbæ may remain comparatively innocuous for considerable periods let us say in the pockets of small and few ulcers in the intestines, or even in its lumen, but we never know whether they *cannot at any moment produce* serious lesions or relapses of old lesions or may aggravate the lesions caused by other organisms And it still seems to me to be a safe teaching that we should consider all intestinal amœbæ and flagellates to be potentially dangerous However this may be, the role of certain amœbæ in dysentery has now been almost generally *accepted*

Captain (now Colonel) Patrick Hehir, C B , I M S and myself certainly recognised both amœbæ and flagellates in India in cases of dysentery and diarrhœa as early as 1896—see, for example, my paper in the *Indian Medical Service Gazette* for May, 1897, so that Sir Leonard Rogers is scarcely *justified* in claiming that he first *discovered amœbic dysentery in India in 1901 (p 17 of his* book), but *Sir Leonard Rogers can well afford to lose* this small distinction in comparison with the immense distinction which he has deservedly obtained for his elaboration of the treatment of dysentery by emetine

EMETINE

Emetine was first separated *from ipecacuanha by* Pelletier and Magendie in 1817 and was, I *believe*, first recommended *for dysentery by Bardsley* of Manchester in 1829, while Tull Walsh gave it *by* the mouth in 1891 But it was the elaborate studies of Rogers which first established the use of it (the hydrochloride) in 1912 and later so that it has *now been before* the profession for more than three years I believe that it is *accepted* everywhere, not perhaps as *being* essentially superior to ipecacuanha powder, but because the hypodermic injection of it is much less troublesome *to the* patient Personally, I think that the hypodermic use brings the drug more directly into conflict with the amœbæ at the bottom of the ulcers, while ipecacuanha does more to attack amœbæ on the *surface* of the mucous membrane and in the lumen of the intestines *so that* I am inclined to *favour* the use of both at the proper stages in the treatment But as an immediately applicable routine treatment the hypodermic *injection of* emetine hydrochloride has certainly become a great boon to humanity *for* which we owe a debt to Sir Leonard Rogers which cannot ever be repaid

I *must* however again mention the use of the sulphates of magnesium and sodium apparently originated *for* dysentery by the French physicians in the middle of last century and which use has now become almost universal in bacillary dysentery so that many think that we have specifics against both forms of the disease According to many, ipecacuanha and emetine are powerless against bacillary dysentery, while the saline purgatives are powerless against amœbic dysentery

DYSENTERY IN THE FORCES IN THE MEDITERRANEAN

I now come to the almost unique experience which we have recently had in connexion with cases of dysentery among soldiers As was to be expected, both forms of dysentery have occurred largely among the troops near the Mediterranean and the Red Sea Apparently bacillary dysentery prevailed up to midsummer, but after that there was certainly an epidemic of amœbic dysentery in July and August I was then on duty in Alexandria as consulting physician for tropical diseases, and had most unusual opportunities for studying the practice of the physicians in all the hospitals On Oct 17th we held a meeting at Alexandria, the Principal Director of the Medical Services being in the chair, to discuss the treatment of acute dysentery, and no less than 16 papers were read on that occasion Subsequently we held another meeting on the pathology of dysentery, which the able pathologists of the hospitals had been carefully considering, and I think that altogether we could claim to know something about the subject, at least as regards the forms of dysentery and diarrhœa, pure and simple, or complicating the typhoids which had been occurring up till then And I should now like to compare notes with officers who have all this time been practising in England on such of the cases as were invalided home

Certainly up to June amœbæ had not been easily found in Egypt, but towards the end of July they began to be recovered without difficulty in a large number of cases, and this state of things continued till the end of September or later After this, however, whether due to the large use of emetine in early cases or to the natural decay of the epidemic, amœbæ began to become more scarce, and I gathered from men who have worked long in Egypt that amœbic dysentery is likely to be supplanted by bacillary dysentery in the winter This, of course, is the almost general rule, for amœbic dysentery is especially a disease of hot climates, and one which tends to be always prevalent more in the summer than in the cool season, and more in low latitudes than in high ones Unfortunately, however, amœbic dysentery tends to be such a chronic complaint that the treatment of it continues to interest us long after the commencement of epidemics, and we have to guard not only against the chronic form of it but against the terrible hepatic abscesses which so frequently follow it

TREATMENT OF AMŒBIC DYSENTERY

As soon as we recognised the presence of amœbic dysentery among the troops emetine began to be employed by, I believe, every officer in charge of wards on the medical side, and, indeed, the Principal Director issued urgent orders to use it in every case of suspicious dysentery without waiting for a definite diagnosis as to the exact nature of the case In my opinion this order was absolutely demanded and proved to be very beneficial.

All those who have had experience of dysentery will, I think, agree with the first sentence which I have already quoted from that old writer, George Wateson, to the effect that the sooner that treatment is commenced in dysentery the more it is likely to prevail Once the amœbæ have begun their destructive trenching and mining under the mucosa there is apparently in many cases no natural limit to their activities, and they will soon end—as we unfortunately saw in necropsy after necropsy—by removing up to 90 per cent or more of the surface Every hour, therefore, counts at the beginning of the infection, and the delay of a few weeks often means almost irreparable ruin to the colon, even if the patient survives It appears to me to be useless to wait for laborious laboratory examinations as to the exact nature of the infection. Emetine is so benign a drug when given subcutaneously that it may well be administered on the chance that the infection is amœbic, just as it is the universal practice in the tropics to give quinine in nearly all tropical fevers without waiting for a pathological diagnosis—at least, if this is likely to be delayed for more than a few hours As in fever, so in dysentery we strike our preliminary blow on the chance that it will destroy an enemy whose presence we have reason only to suspect The results were remarkable Of course, owing to many difficulties the order referred to could not take full effect under several weeks, but after that I was informed by everyone that the newer cases were not of so grave a type as the earlier ones

I will now digress for a moment to emphasise a point which appears to me to be of great importance The large bulk of the troops came from Britain, Australia, and New Zealand, and were therefore men who had never had amœbic dysentery before Many of the cases were at first exceedingly grave—as grave, in fact, as I have ever seen among European troops freshly arrived in India Many of them had died before reaching the base hospitals, and those that survived had frequently reached the condition of "running dysentery," which always suggests to me that a large proportion of the mucosa is already destroyed. But, on the other hand, it was remarkable that among the Indian troops who are exposed to amœbic dysentery from childhood, there was not nearly the same frequency of severe cases I was, in fact, informed at the Indian Hospital that they did not suffer much from the disease, and that the cases which occurred were comparatively slight From this and other considerations I am therefore led to believe that in amoebic dysentery, as in malaria and many other diseases, there is likely to be a certain amount of immunity acquired during childhood in localities where such dysentery is endemic, and that, conversely, there is no such acquired immunity among the inhabitants of non endemic areas I think, then, that among the European and Australian troops we had to deal with acute amoebic dysentery in its most unmodified and malignant form This point must be remembered in connexion with the results of emetine treatment The studies of Rogers and of many Indian physicians were carried out mostly upon Indian patients —which probably explains the very rapid action of the drug, and we could hardly expect that we should have equally rapid results among the European troops in the Mediterranean

METHOD OF TREATMENT WITH EMETINE

Nevertheless, we were all convinced of its great, and indeed remarkable, efficacy As a general rule, doses of 1 grain of the hydrochloride a day were prescribed, either given in one subcutaneous injection or given in two doses morning and evening Practice differed considerably as to the number of doses administered In one hospital the rule was

was vomited, but the second was retained, and the patient's recovery began next morning and was complete We used to repeat the ipecacuanha at least once a day for about a week or more in spite of vomiting, but, of course, patients often became habituated even to large doses in three or four days Later on I used to prefer giving opium every night, and the dose of ipecacuanha in bolus with a single mouthful of milk at about 4 o'clock in the morning, if a nurse to give it was available, and the patient was not allowed anything either to eat or to drink until about 9 A.M I thought that with this method one daily dose sufficed Later in the case we used to combine 5 or 10 grains of tannic acid with the ipecacuanha, especially in cases of "running dysentery", but I believe that practice was generally opposed to the use of astringents until the disease had first been mastered by ipecacuanha Of course, in those days we did not know whether the dysentery was amœbic or bacillary, and gave ipecacuanha in both, and up to the present I am not by any means convinced that ipecacuanha is of no benefit in bacillary dysentery The extraordinary specific effect which it has upon the mucous membrane of the stomach and colon especially suggests that it may at least be partially destructive to the vegetable parasites as well as to the animal ones

I do not think that we used bismuth much in those days, nor calomel, nor the sulphates of sodium and magnesium And many of us were certainly opposed to enemata, at least in very new cases, as we thought that they were likely to have an irritating effect similar to that often produced by catheterisation Here, I admit, opinion differed largely, and I remember many cases in which enemata certainly did not kill the patient, although in acute cases they undoubtedly cause much depression and considerable pain I also remember a few cases in which I thought that ipecacuanha had stopped the progress of commencing hepatic abscess—and also some, I fear, in which it failed to do so

In cases of chronic dysentery—cases whom we often found extremely difficult to treat, and indeed who have often become chronic simply because they refuse the treatment advised by their medical attendants—ipecacuanha was often given daily for some weeks, was then remitted for another week or so, and commenced again, and so on There were many retired officers in Bangalore suffering from this disease and from sprue, and the difficulty of the physicians almost always lay in dealing with the patient as much as in dealing with the disease, and everyone knows the state of irritability and impatience to which chronic dysentery and sprue reduce their victims In chronic dysentery enemata were, of course, much more certainly used than in acute dysentery, and nitrate of silver was almost a classical drug for the purpose We heard nothing in those days of appendicostomy, but dieting was a science in itself, requiring not only the greatest skill of the clinician but an obedience in the patient which was seldom met with

INTESTINAL AMŒBÆ

So far as I can ascertain it was chiefly the work of Kartulis in Alexandria which first definitely incriminated intestinal amœbæ as pathogenic organisms, partly in consequence of his admirable and long continued clinical studies, partly by his discovery of amœbæ in the sterile pus of hepatic abscess, and partly by his experiments on kittens This work was commenced about 1880 and was already progressing when Koch visited Alexandria in 1883 The previous studies of Lewis and Cunningham had led these workers to think that these organisms were merely pseudoparasites in men, though they (or rather the latter) thought they were true parasites in cattle, and Celli and Fiocca and other workers seemed inclined to support them As the result of my own studies in Bangalore, both on amœbæ and on the intestinal flagellates which abounded there, I felt almost convinced that all these organisms are, or at least may be, injurious to the host—and still think so It appears to me to be a very rash statement to make that any parasite is quite innocuous One might as well say that a grain of dust in a watch is harmless, because it does not always stop the mechanism Certainly amœbæ may remain comparatively innocuous for considerable periods, let us say in the pockets of small and few ulcers in the intestines or even in its lumen, but we never know whether they cannot at any moment produce serious lesions or relapses of old lesions or may aggravate the lesions caused by other organisms And it still seems to me to be a safe teaching that we should consider all intestinal amœbæ and flagellates to be potentially dangerous However this may be, the rôle of certain amœbæ in dysentery has now been almost generally accepted

Captain (now Colonel) Patrick Hehir, C B, I M S, and myself certainly recognised both amœbæ and flagellates in India in cases of dysentery and diarrhœa as early as 1896—see, for example, my paper in the *Indian Medical Service Gazette* for May, 1897, so that Sir Leonard Rogers is scarcely justified in claiming that he first discovered amœbic dysentery in India in 1901 (p 17 of his book), but Sir Leonard Rogers can well afford to lose this small distinction in comparison with the immense distinction which he has deservedly obtained for his elaboration of the treatment of dysentery by emetine

EMETINE

Emetine was first separated from ipecacuanha by Pelletier and Magendie in 1817 and was, I believe, first recommended for dysentery by Bardsley of Manchester in 1829, while Tull Walsh gave it by the mouth in 1891 But it was the elaborate studies of Rogers which first established the use of it (the hydrochloride) in 1912 and later, so that it has now been before the profession for more than three years I believe that it is accepted everywhere, not perhaps as being essentially superior to ipecacuanha powder, but because the hypodermic injection of it is much less troublesome to the patient Personally, I think that the hypodermic use brings the drug more directly into conflict with the amœbæ at the bottom of the ulcers, while ipecacuanha does more to attack amœbæ on the surface of the mucous membrane and in the lumen of the intestines, so that I am inclined to favour the use of both at the proper stages in the treatment But as an immediately applicable routine treatment the hypodermic injection of emetine hydrochloride has certainly become a great boon to humanity for which we owe a debt to Sir Leonard Rogers which cannot ever be repaid

I must however again mention the use of the sulphates of magnesium and sodium, apparently originated for dysentery by the French physicians in the middle of last century and which use has now become almost universal in bacillary dysentery, so that many think that we have specifics against both forms of the disease According to many, ipecacuanha and emetine are powerless against bacillary dysentery, while the saline purgatives are powerless against amœbic dysentery

DYSENTERY IN THE FORCES IN THE MEDITERRANEAN

I now come to the almost unique experience which we have recently had in connexion with cases of dysentery among soldiers As was to be expected, both forms of dysentery have occurred largely among the troops near the Mediterranean and the Red Sea Apparently bacillary dysentery prevailed up to midsummer, but after that there was certainly an epidemic of amœbic dysentery in July and August I was then on duty in Alexandria as consulting physician for tropical diseases, and had most unusual opportunities for studying the practice of the physicians in all the hospitals On Oct 17th we held a meeting at Alexandria, the Principal Director of the Medical Services being in the chair, to discuss the treatment of acute dysentery, and no less than 16 papers were read on that occasion. Subsequently we held another meeting on the pathology of dysentery, which the able pathologists of the hospitals had been carefully considering, and I think that altogether we could claim to know something about the subject, at least as regards the forms of dysentery and diarrhœa, pure and simple, or complicating the typhoids which had been occurring up till then And I should now like to compare notes with officers who have all this time been practising in England on such of the cases as were invalided home.

Certainly up to June amœbæ had not been easily found in Egypt, but towards the end of July they began to be recovered without difficulty in a large number of cases, and this state of things continued till the end of September or later After this, however, whether due to the large use of emetine in early cases or to the natural decay of the epidemic, amœbæ began to become more scarce, and I gathered from men who have worked long in Egypt that amœbic dysentery is likely to be supplanted by bacillary dysentery in the winter This, of course, is the almost general rule, for amœbic dysentery is especially a disease of hot climates, and one which tends to be always prevalent more in the summer than in the cool season, and more in low latitudes than in high ones Unfortunately, however, amœbic dysentery tends to be such a chronic complaint that the treatment of it continues to interest us long after the commencement of epidemics, and we have to guard not only against the chronic form of it but against the terrible hepatic abscesses which so frequently follow it

TREATMENT OF AMŒBIC DYSENTERY

As soon as we recognised the presence of amœbic dysentery among the troops emetine began to be employed by, I believe, every officer in charge of wards on the medical side, and, indeed, the Principal Director issued urgent orders to use it in every case of suspicious dysentery without waiting for a definite diagnosis as to the exact nature of the case In my opinion this order was absolutely demanded and proved to be very beneficial.

All those who have had experience of dysentery will, I think, agree with the first sentence which I have already quoted from that old writer, George Watson, to the effect that the sooner that treatment is commenced in dysentery the more it is likely to prevail Once the amœbæ have begun their destructive trenching and mining under the mucosa there is apparently in many cases no natural limit to their activities, and they will soon end—as we unfortunately saw in necropsy after necropsy—by removing up to 90 per cent or more of the surface Every hour, therefore, counts at the beginning of the infection, and the delay of a few weeks often means almost irreparable ruin to the colon, even if the patient survives It appears to me to be useless to wait for laborious laboratory examinations as to the exact nature of the infection Emetine is so benign a drug when given subcutaneously that it may well be administered on the chance that the infection is amœbic, just as it is the universal practice in the tropics to give quinine in nearly all tropical fevers without waiting for a pathological diagnosis—at least, if this is likely to be delayed for more than a few hours As in fever, so in dysentery we strike our preliminary blow on the chance that it will destroy an enemy whose presence we have reason only to suspect The results were remarkable Of course, owing to many difficulties the order referred to could not take full effect under several weeks, but after that I was informed by everyone that the newer cases were not of so grave a type as the earlier ones

I will now digress for a moment to emphasise a point which appears to me to be of great importance The large bulk of the troops came from Britain, Australia, and New Zealand, and were therefore men who had never had amœbic dysentery before Many of the cases were at first exceedingly grave—as grave, in fact, as I have ever seen among European troops freshly arrived in India. Many of them had died before reaching the base hospitals, and those that survived had frequently reached the condition of "running dysentery," which always suggests to me that a large proportion of the mucosa is already destroyed. But, on the other hand, it was remarkable that among the Indian troops, who are exposed to amœbic dysentery from childhood, there was not nearly the same frequency of severe cases I was, in fact, informed at the Indian Hospital that they did not suffer much from the disease, and that the cases which occurred were comparatively slight From this and other considerations I am therefore led to believe that in amoebic dysentery, as in malaria and many other diseases, there is likely to be a certain amount of immunity acquired during childhood in localities where such dysentery is endemic, and that, conversely, there is no such acquired immunity among the inhabitants of non endemic areas I think, then, that among the European and Australian troops we had to deal with acute amoebic dysentery in its most unmodified and malignant form This point must be remembered in connexion with the results of emetine treatment The studies of Rogers and of many Indian physicians were carried out mostly upon Indian patients —which probably explains the very rapid action of the drug, and we could hardly expect that we should have equally rapid results among the European troops in the Mediterranean

METHOD OF TREATMENT WITH EMETINE

Nevertheless, we were all convinced of its great, and indeed remarkable, efficacy As a general rule, doses of 1 grain of the hydrochloride a day were prescribed either given in one subcutaneous injection or given in two doses morning and evening Practice differed considerably as to the number of doses administered In one hospital the rule was that of three days on and three days off, and in another hospital the rule was five days on and five days off, while many practitioners preferred to give it daily, even for some weeks, without intermission Indeed, the practice in India has frequently been to administer it, not only for weeks, but for many months, and I have heard of cases who have altogether had a hundred doses or more But opinion began soon to be divided upon this point in rather an abrupt manner In one hospital three cases of dysentery died without our being able to find any very obvious cause of death, and some suspicion was aroused that the death may have been due to heart failure owing to cumulative action of the emetine

These cases were admirably reported by the medical officers in charge, but on considering them carefully I doubted much whether the fatal result could in any way be attributed to the drug Two of the cases died, indeed, about a week after the last dose of emetine, and both these cases had mysterious rises of temperature for some days before death, these suggesting that death was really caused by some secondary infection which could not be traced clearly at the necropsy The third case died four days after the last dose of emetine, though he was convalescent and had been allowed out of bed Even in this instance the case against emetine was extremely weak, because the total amount of emetine which the patient had received from the beginning scarcely amounted to what Rogers calculated is a single lethal dose—namely, about 15 grains for a man There was fatty degeneration of the heart in all these cases, but no more than is frequently found after any grave illness

On the other hand, numerous patients had received emetine for more than 30 days without exhibiting any bad effects which could at all be traced to the drug, and Indian officers especially were not inclined to admit that emetine is at all cumulative or mischievous in its results Nevertheless, practice gradually crystallised into the formula that, unless there was very strong reason for continuing emetine, it should be remitted, at least for a time after about ten days, especially if it had ceased to do good And, on the whole, I think that this is the best practice in acute dysentery[1]

COMPLEX INFECTIONS

As was to be expected, about 10 or 20 per cent of the cases failed to be cured by emetine I do not mean that all of these patients died, but that the dysentery gradually merged into the chronic form Most, but not all, of these cases were patients who had not received emetine early in the infection, and in whom therefore the mucosa was probably destroyed over a large surface before the treatment was commenced And this introduces a very important factor in treatment

Emetine can only destroy the parasites in the ulcers, it cannot heal the lesions themselves Now it is almost or quite certain that in most cases the original trench work of the amœbæ is followed by an extensive bacillary invasion of some kind At our pathological meeting in Alexandria, difference of opinion was expressed as to whether these secondary organisms were always *Bacillus dysenteriæ* of any strain, or others, including the normal flora of the intestine, and prolonged researches will be required before this point is settled We must, of course, understand (though I have not stated it clearly up to now) that complex infections were exceedingly common. For obvious reasons it is quite impossible for me to give figures, but I gathered from continual visits to the hospitals that this was the case Thus, both the amœbic and the bacillary forms of dysentery occurred together in a certain proportion of cases, and in others both forms complicated the typhoids, or were complicated by obstinate diarrhœas—many of the latter being probably due to the flagellates

Now in all such cases we could hardly expect emetine to do more than its own proper work, it destroyed the amœbæ, but the patient was then obliged to deal with the secondary or complicating maladies The text book picture of simple amœbic dysentery was therefore not the only one seen It frequently happened that cases which were brought in for the typhoids showed dysentery in convalescence, and even died from it We were at first inclined to attribute these cases to hospital infections but later came to the conclusion that the dysentery infection had probably been present from the beginning

I became very convinced of this from the remarkable results of Lieutenant G B Bartlett, R A M C (T), pathologist to one of the hospitals He found dysenteric lesions in 33 necropsies, and has kindly given me a preliminary classification of these, pending further studies which he will, I hope, publish in detail Out of the 33 cases 15 died from exhaustion, 2 from typical tropical abscess of the liver, 2 from perforation of the dysenteric ulcers, 2 from hæmorrhage, 2 from typhoid or paratyphoid, and no fewer than 10 from other causes such as wounds, empyema, septicæmia cirrhosis of the liver, &c Now it is remarkable that in many of these cases dysentery had not been diagnosed at all during life although post mortem the dysenteric lesions were found sometimes to be extensive and severe Out of these 33 cases, moreover, 16 were found to be purely amœbic 3 were amœbic with typhoid ulceration and in 14 there was evidence in the intestine (or rarely in lymph glands, spleen, liver, or kidneys) of a secondary infection on the top of the amœbic ulceration

We are thus forced to infer that the amœbic ulceration may not always declare itself during life in the form of a typical dysentery which can be diagnosed by the well known signs In fact I personally think that much mischief may be caused by the amœbæ without any signs whatever and that in many cases the typical disease does not begin to show itself until some secondary intestinal invasion has taken place on the top of the trench work of the amœbæ How long this larval form of amœbic dysentery can continue I cannot say, but in many cases it had continued through the whole course of an intercurrent typhoid infection Indeed I was much inclined to recommend on the strength of Dr Bartlett s figures and of other observations that emetine should be given to all hospital patients as a preventive just as we give quinine to almost all hospital patients in a very malarious locality But the recommendation was hardly necessary, since most officers in charge of wards early became very much alive to this danger, and were giving the emetine very generally in consequence

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While I was in Alexandria pure bacillary dysentery was not very common, though we saw a fair number of cases There were also, of course, a proportion of cases which did not certainly belong to either group, and we had the usual difficulties in the way of diagnosis The pathologists scarcely had time at first to make very minute studies, and everyone knows that amœbæ may be easily overlooked unless plenty of time is given to the search I will not say more under this head, as a central laboratory has now been established and will deal much more thoroughly with such questions in the future

Returning then to treatment, our cases practically divided themselves into two groups—those in which about one week's emetine treatment practically resolved the dysentery, and those in which it failed to do so Of course, the latter cases were by far the more troublesome, and they generally resulted in what I have always known as running or even incontinent dysentery I fear that some of our best clinicians admitted their failure in dealing with these, which, however form only a small percentage of the cases Post mortem they always showed most extensive lesions, and, indeed, an almost entire destruction of the mucosa Many of the cases died, but, as I have already said, others resulted in chronic dysentery and were invalided, and are now probably under treatment in this country

PURGATIVE ACTION OF SULPHATES

Now, regarding the sulphates of sodium and magnesium, these have long been recognised as invaluable for the treatment of bacillary dysentery Their purgative action is not due to peristalsis, but to the increase of the secretion of fluid and at the same time to the retardation of its absorption According to the researches of Hay the dose produces increased secretion of fluid as it passes downwards, and the salts do not purge when given intravenously But the more recent experiments of Cook and Schlesinger suggest that the drugs are first absorbed from the stomach and then cause a rush of fluid from the mucosa of the large intestine, and these results certainly accord more with the fact, often seen, that the salts purge within half an hour after administration It was also shown that bismuth meals administered at the same time as the sulphates succeeded in travelling downwards a very little distance before the fluid began to collect in the large intestine, which proves the same thing

These points are of great importance in connexion with the treatment in dysentery I infer that the salts act in this disease simply by flushing out the large intestine and washing away the parasites, amœbic or bacillary, by a strong current from *within*—that is, from the blood itself In fact, they probably produce the same, or better, effects than would be produced by energetic washing of the surface from without That is to say, as long as these salts continue to be given the dysenteric producing organism cannot easily get a footing within the mucosa Of course, this reasoning is hypothetical but, taken in connexion with the proved efficacy of the drug it encourages us to use them in both forms of dysentery Indeed, the practice of administering the sulphates together with emetine in the earliest days of a dysentery is now becoming almost universal, the emetine kills any amœbæ that may be present, and the salts wash them and injurious bacteria out of the follicles In further advanced cases—say those of several weeks' duration—the use of the salts becomes more problematical in the case of amœbic dysentery, and one must be on guard against exhausting patients who have been extremely purged by the disease itself, especially if this has already taken the form of running dysentery On the other hand, I admit that many practitioners gave the salts in almost all cases of whatever duration

MEDICINAL TREATMENT

The treatment of running acute dysentery is the great problem in most cases, and, I regret to say, one which cannot always be solved, as admitted by some of the most experienced practitioners in all countries Here the mischief has been already accomplished, and we are probably in the presence of an almost denuded colon. We tried antidysenteric sera in many such cases on the mere chance that they might destroy the specific bacteria if present, there being generally not sufficient time to make minute pathological studies And the treatment was said by many to be remarkably beneficial in a certain proportion of cases But others were not so favourably inclined to it, and others again argued that an ordinary horse serum would probably have been just as useful I have suggested that polyvalent sera might be put on the market against other intestinal flora than the specific ones, and hope that such will be tried before long

Failing sera, we had recourse to medicinal treatments I always urged the bismuth treatment elaborated by Deeks in Panama and consisting of a heaped teaspoonful of the subnitrate three or four times a day The utility of this medication is supposed to depend not only upon the astringent value of bismuth, but also upon a chemical change, and lastly upon the mechanical action of the powder, which is likely to injure amœbæ by attrition At all events, bismuth in these and smaller doses is very generally given in dysentery, was largely employed throughout the hospitals in Alexandria, and certainly I think, proved distinctly useful It was generally administered continuously, beginning a day or two after the initial treatment with emetine was commenced

I have always liked tannic acid in conjunction, say up to 10 grains for each dose In fact, tannic acid has been used for a long time, and was often administered together with ipecacuanha powder, because it tends to check the vomiting induced by the latter, as well as because of its astringent effect But it is a good general rule *not to use any* astringents at all too early—*that* is, *until the* specific remedies have had time to take effect After that happens, however, opium, bismuth, tannic acid, catechu, *and other astringents* do often succeed in terminating *the attack* very rapidly I regret to say, however, that many cases became cases of established running dysentery in spite of all treatment

Collapse is another very difficult condition to deal with Lieutenant Colonel A H Lister, of one of the hospitals in Alexandria, often used the subcutaneous infusion *of hypertonic* salines together that of three days on and three days off, and in another hospital the rule was five days on and five days off, while many practitioners preferred to give it daily, even for some weeks, without intermission Indeed, the practice in India has frequently been to administer it, not only for weeks, but for many months, and I have heard of cases who have altogether had a hundred doses or more But opinion began soon to be divided upon this point in rather an abrupt manner In one hospital three cases of dysentery died without our being able to find any very obvious cause of death, and some suspicion was aroused that the death may have been due to heart failure owing to cumulative action of the emetine

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These points are of great importance in connexion with the treatment in dysentery I infer that the salts act in this disease simply by flushing out the large intestine and washing away the parasites, amœbic or bacillary by a strong current *from within*—that is from the blood itself In fact they probably produce the same, or better, effects than would be produced by energetic washing of the surface from without That is to say as long as these salts continue to be given the dysenteric producing organism cannot easily get a footing within the mucosa Of course this reasoning is hypothetical, but, taken in connexion with the proved efficacy of the drug it encourages us to use them in both forms of dysentery Indeed the practice of administering the sulphates together with emetine in the earliest days of a dysentery is now becoming almost universal, the emetine kills any amœbæ that may be present, and the salts wash them and injurious bacteria out of the follicles In further advanced cases—say those of several weeks duration—the use of the salts becomes more problematical in the case of amœbic dysentery, and one must be on guard against exhausting patients who have been extremely purged by the disease itself, especially if this has already taken the form of *running* dysentery On the other hand, I admit that many practitioners gave the salts in almost all cases of whatever duration

MEDICINAL TREATMENT

The treatment of *running acute* dysentery is the great problem in most cases, and, I regret to say, one which cannot always be solved, as admitted by some of the most experienced practitioners in all countries Here the mischief has been already accomplished, and we are probably in the presence of an almost denuded *colon*. We tried antidysenteric sera in many such cases on the mere chance that they might destroy the specific bacteria if present, there being generally not sufficient time to make minute pathological studies And the treatment was said by many to be remarkably beneficial in a certain proportion of cases But others were not so favourably inclined to it, and others again argued that an ordinary horse seru
would probably have been just as useful I ha
suggested that polyvalent sera might be put c
the market against other intestinal flora than
specific ones, and hope that such will be
before long

Failing sera, we had recourse to medicinal
ments I always urged the bismuth treatm
elaborated by Deeks in Panama and consisting of
heaped teaspoonful of the subnitrate three or fo
times a day The utility of this medication
supposed to depend not only upon the astring
value of bismuth, but also upon a chemi
change, and lastly upon the mechanical actic
of the powder, which is likely to injure amœ
by attrition At all events, bismuth in th
and smaller doses is very generally given in dysentery, was largely employed throughout the hospitals in Alexandria, and certainly I think, proved distinctly useful It was generally administered continuously, beginning a day or two after the initial treatment with emetine was commenced

I have always liked tannic acid in
say up to 10 grains for each dose
acid has been used for a long time,
administered together with ipecac
because it tends to check the vomit
the latter, as well as because of
effect But it is a good general r
astringents at all too early—
specific remedies have had time
After that happens, however,
tannic acid catechu, and other as
succeed in terminating the attack
regret to say however, that many
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all treatment

Collapse is another very difficult
deal with Lieutenant Colonel A H
of the hospitals in Alexandria, often
cutaneous infusion of hypertonic salines

with 10 minims of adrenalin solution, 1 in 1,000 every four hours, injected hypodermically, with very good results, and strongly recommends the adrenalin

Opium is, of course, an invaluable drug throughout the treatment, and, though some practitioners appear to be nervous about it, I think that the use of it is really general at all stages

ENEMATA —APPENDICOSTOMY

We now come to a very vexed question—namely, the use of enemata in acute dysentery There is no question of their use in chronic dysentery, especially of low down ulceration, but some of us felt that they are contra indicated in very early cases The disease is itself complicated with purging, and if the sulphates are being given at the same time, there is a continual washing out of the bowel from within In such cases I really cannot understand the rationale of using massive lavations, which depress the patient and may even rupture the very thin walls of the ulcers, and we never know how old and thin the ulcers may be Others object to them on the ground that they may engender secondary infections from without, and I have a feeling that the use of enemata is somewhat too frequently followed by running dysentery Others again adopt enemata as a standard treatment

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several hours, and these baths can be repeated several times a day if the patient is not in too weak a condition. We could not try such baths much in Alexandria, but I would suggest them for use in the cases in this country Personally also I have always been much in favour of oils by the mouth Olive oil is an old remedy for dysentery in Italy A dessertspoonful of it with a pinch of salt may be given several times a day, but the patient soon sickens of it, and then I suggest the non purgative medicinal paraffins—which, indeed, may be given from the first I have often used these, and have observed that they appear in a saponified form in the stools—a form which is likely to be very injurious to all kinds of organisms and in fact, to smother them Indeed, this effect of oils is, I believe, well recognised

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DIET

Regarding diet in acute dysentery, I must say that after comparing the very various diets given by many medical men I am beginning to be almost sceptical as to whether any particular form presents any real advantage I have seen cases both improve and die with liquid diet, bland diets, and ordinary diets, and, in fact, cases which are not given the great advantages of perfected hospital dietaries are often those which suffer the least.

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We must remember that the abscesses do not appear only a few months *after* attacks of dysentery, but continue to appear for years afterwards Now this seems to me a very grave danger, and I would strongly urge that the only way to avoid it is to give courses of emetine or ipecacuanha in convalescent cases every month or so I would suggest emetine in grain doses for three days every month until the patient is finally returned to duty, and think that this should be administered whether any symptoms of dysentery remain or not As long as any amœbæ still live in the intestine, so long will the danger of abscess be present, or at least that is the safest hypothesis to live with And I do not care whether a positive diagnosis of amœbic dysentery has ever been made or not made If I myself had been attacked with dysentery I would certainly submit myself to this discipline without fail Acute dysentery is a grievous malady, but it is only the first act of the tragedy Chronic dysentery is the second act, and is still worse, but hepatic abscess is the third act and is worst of all We are too apt to look upon amœbic dysentery as being only a temporary affair easily cured by a few doses of the specific

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CONCLUSION

I have now kept you long enough, although I have practically dealt only, and that cursorily, with the treatment of acute dysentery Fortunately, I think, we are not yet in the presence of much of the chronic dysentery which will probably remain over from the epidemic The treatment of chronic dysentery is itself a very large subject requiring special consideration, and we can hardly deal with it now

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I was able to follow up only one case of acute dysentery in which appendicostomy was tried, and cannot say that the result was very brilliant There does not appear to me to be much *a priori* argument in favour of it The bowel can be washed out from within by means of the sulphates, and I am by no means convinced that external washing gives as much benefit in the case of the large intestine as it would do in the case of a superficial ulceration of the skin, while the operation itself and the wound made by it add a severe trial to patients who are already sorely tried by their malady At our discussion on dysentery Colonel Tubby expressed himself as opposed to appendicostomy for acute dysentery and even for chronic amœbic dysentery, but was less opposed to it for bacillary dysentery Irrigation with oil through the appendix appears to me to be more promising than that with other fluids and it was tried, but with doubtful results, in the case which I watched

SUBSIDIARY ITEMS OF TREATMENT

Regarding subsidiary items of treatment, I need scarcely insist upon the general use of cholera belts or warm applications to the abdomen In India I frequently used very hot hip baths, which I am certain give great relief, often lasting for several hours, and these baths can be repeated several times a day if the patient is not in too weak a condition We could not try such baths much in Alexandria, but I would suggest them for use in the cases in this country Personally also I have always been much in favour of oils by the mouth Olive oil is an old remedy for dysentery in Italy A dessertspoonful of it with a pinch of salt may be given several times a day, but the patient soon sickens of it, and then I suggest the non purgative medicinal paraffins—which, indeed may be given from the first I have often used these, and have observed that they appear in a saponified form in the stools—a form which is likely to be very injurious to all kinds of organisms and in fact, to smother them Indeed, this effect of oils is, I believe, well recognised

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We are too apt to think that the form in which food is presented to the stomach is also the form in which it appears in the colon For example, bread is a solid diet for the stomach, but almost a liquid one for the colon, and the converse holds very often with milk To be frank, I scarcely dare speak upon this subject owing to the strong but very opposite opinions held by medical men On one thing, however, I am pretty convinced—namely, that large bulks of fluid diet are injurious in very running dysenteries It seems to me that such bulks of fluid are rapidly absorbed from the stomach and increase the blood pressure, with the result that fluid rushes out again from the ulcerated surfaces of the intestine Whatever the explanation may be, we can observe that such large bulks of fluid are followed sometimes within ten minutes by copious evacuations which by no means benefit the patients The case is much the same as that of large bulks of fluid in the treatment of catarrhs and personally I prefer a comparatively dry but varied dietary in running dysenteries

Perhaps many medical men would be almost appalled by this hypothesis, and would never dream of presenting the patient with anything but whey, milk, broth and so on Certainly in typhoid a premature return to solid diet notoriously sends up the temperature, but the large intestine is farther away from the stomach, and I have not seen much evidence of a similar effect in dysentery At the same time, one officer told me that when he wished to diagnose the presence of dysenteric ulceration in a convalescent case of enteric he gave a meal of oatmeal porridge

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PENETRATIVE WOUNDS OF THE ABDOMEN

A LIST OF THE FIRST FIFTY CONSECUTIVE CASES OPERATED UPON AT THE 17TH CASUALTY CLEARING STATION IN THE FIELD, FLANDERS

BY W C B MEYER, F R C S E,
CAPTAIN R.A M C (S R.)

AND

D C TAYLOR, F R C S,
LIEUTENANT R.A.M C

With a Note by

SURGEON GENERAL SIR ANTHONY BOWLBY, K C M G, A M S,
SURGEON-IN-ORDINARY TO H M THE KING CONSULTING SURGEON TO THE BRITISH EXPEDITIONARY FORCE IN FRANCE SURGEON TO ST BARTHOLOMEW'S HOSPITAL.

IT has been suggested to us that it might be of interest to publish results obtained by laparotomy for penetrative wounds of the abdomen and to quote actual cases We have, therefore, arranged in a tabular form certain facts about the first 50 cases operated upon. We also add the number of cases during this same period (three months) which have not been operated upon, either because they were mortally wounded and moribund, or because no perforation of the gut was suspected, or because they were expected to recover without operation No analysis has been attempted in this paper, as it is hoped that with larger experience more accurate conclusions will be able to be drawn and published at a later date We have merely stated our procedure in operation and have attempted to emphasise some facts which we have found to be important in dealing with these cases

Time between injury and operation —The cases have come to us wonderfully quickly from the firing line We have found that, generally speaking, the earlier a case is operated upon the better the chances of recovery The best results have been obtained where patients have been treated within 12 hours of being wounded

Preliminary procedure to operation —After admission the men are first of all rapidly and gently undressed and warmed up Rectal salines are not given where there is a risk of damage to the lower colon Morphia 1/4 gr and atropine 1/100 gr are administered subcutaneously as a routine before the anæsthetic, unless there be some contra indication, such as previous administration Laparotomy is generally performed about one hour after admission

Examination of the patient —A careful history is taken, especially with a view to discovering the course of the missile through the abdominal cavity It is generally possible to gain most valuable information as to the course of the missile by questioning the patient as to his own position when he was struck, his posture, his position in regard to the enemy, as to whether the missile came from above from below, from the side and so on

The man s general aspect is a very useful guide to the seriousness of his injury, the characteristic ashen grey colour of the face being of great importance Perhaps of all signs the condition of the pulse at the wrist is the most reliable index both of the man s condition and of the seriousness of the intra abdominal condition 1 Where it is absent altogether it is, generally speaking, almost hopeless to operate, not only because of the man's general condition, but because the seriousness of the lesions will almost certainly require lengthy operation 2 Where it is thready, running, and uncountable the prognosis is perhaps very grave but not hopeless as our results have shown, for extensive lesions requiring resection have in several instances been successfully treated 3 Where the pulse is stronger the prognosis, generally speaking, seems to improve according to the quality of the pulse

The usual symptoms and signs of intraperitoneal lesion, such as pain, tenderness rigidity and vomiting, are generally markedly prominent Even morphia does not, as a rule, completely disguise these, and in some cases no amount of morphia short of poisoning the patient appeared capable of overcoming pain Entire absence of rigidity where a perforation of the gut has certainly been present has been observed in moribund cases only

Where clinical signs and symptoms point to a perforation of the gut, even if, under anæsthesia, examination reveals no penetration of the peritoneum, we think it advisable to do a laparotomy as we have lost at least one case where the peritoneum was found to be intact and the track of the bullet was entirely extraperitoneal, and yet the bowel had been perforated This case would probably have been saved had we known that a bullet could cause a perforation of the gut without penetrating the peritoneum

The Operation

1 *Anæsthesia* —For purposes of anæsthesia chloroform induction followed by open ether has been invariably employed Subcutaneous saline under both breasts has been given as a routine whenever the pulse has not been really good From 1½ to 2 pints are generally administered from a Lane's indiarubber bag

2 *Incision* —The incision is planned to give most ready access to the area in which the lesions are calculated to be in We have most frequently adopted that through the rectus muscle increasing the distance from the mid line according to the situation of the lesion The incision has rarely been more than 4 to 5 inches in length

3 *Examination of peritoneal content and organs* —On opening the peritoneal cavity excessive blood and intestinal content are rapidly mopped away by gauze from a long roll The organs are then systematically examined, beginning with that suspected of being most damaged Any source of hæmorrhage or urgent lesion is dealt with immediately, otherwise we have adopted the principle of finding all the lesions before proceeding to their treatment By so doing precious time is saved, which may have been wasted in dealing with numbers of minor lesions when one large resection may have treated all the wounds rapidly, more surely, and with better prospects for recovery of the patient When perforations of the gut are met with they are at once covered by fourfold gauze and a light clamp is applied to prevent extravasation of content The examination of the rest of the abdominal organs is then proceeded with

4 *Treatment of lesions* —Small perforations or rents of the intestine are invariably sutured in the usual way preferably in the transverse axis of the gut or one is sutured thus and one longitudinally where there are two close together Resection is done (a) when there are rents involving

more than one third of the circumference of the gut, (*b*) when multiple rents or perforations lie very closely together, endangering the vitality of the operation area, (*c*) when the mesenteric edge of the bowel and the mesentery are both damaged, (*d*) when the mesentery has been badly torn, and (*e*) when the lesions are very numerous (to save time) It may here be said that it takes a shorter time to do a circular resection than to suture six or eight separate rents, and in our experience the shock and paresis following small resections are not greater than those accompanying multiple sutures Where larger resections are done—i e, over 10 to 12 inches—we have generally favoured lateral rather than circular anastomosis For all suturing of the gut we have used fine linen thread Bleeding wounds of the liver and spleen, where not too extensive, have generally been packed with gauze, removed on the third or fourth day In one extensive laceration of the liver two pieces had to be resected and the rents in the liver sutured with iodised catgut

5 *Treatment of peritoneal cavity*—After dealing with the various lesions, or best of all while the small gut is outside the abdomen, the peritoneal cavity is rapidly but carefully mopped as clean as possible, and where collapse is marked warm saline may be introduced into the peritoneal cavity with great benefit Wherever the gut has been perforated it is our belief that drainage of the peritoneal cavity for 24 to 48 hours is of undoubted value, not merely because a certain amount of infected fluid drains away, but because where we have not drained the discomfort of the patient after operation has been much more marked than where we have drained

6 *Treatment of the abdominal wall*—We have always first sutured the peritoneum and posterior sheath of the rectus with linen unless speed was urgently demanded, when silkworm gut through and through all layers was used The rest of the strata have then been stitched one by one, removing the local tension by two or three silkworm gut sutures through all layers except the peritoneum We have found it advisable to strap our sterile dressings to the abdomen by means of plaster to avoid exposure of wounds subsequently

After treatment

The usual post abdominal regime has been practised, such as warmth, Fowler position, &c Rectal salines four hourly are almost invariably given for 24–48 hours On the second or third day ½ c c of pituitrin is administered subcutaneously and 2 ounces of glycerine per rectum, repeated the following day if necessary In our experience the action of pituitrin is of inestimable value in promoting intestinal peristalsis About the fifth day an enema is generally given, except where the pelvic colon has been sutured Aperients are allowed on the eighth or ninth day, unless the bowels have moved freely of their own accord before, which has happened not infrequently Fluids, such as water, tea and sugar, and beef tea are given for the first three days water being allowed in sips when asked for immediately after operation Milk is added on the third day, milk puddings after the fifth day as a rule and chicken after the seventh day

Regurgitant vomiting is treated by stomach lavage repeated as often as necessary Persistent hiccough following larger resections has in our experience been relieved only by morphia or stomach lavage

Evacuation to the base—Patients have not generally been sent down to the base until out of danger—i e, when temperature and pulse had settled and were good, when the bowels had moved, when the tongue was clean and moist, and the patients were hungry

Results

Out of this series of 50 cases 17 deaths have occurred and 33 cases have been evacuated to the base We have heard from the majority of the cases since, as each man is requested to write to us in ten days' time and again in a month. We have heard of no subsequent deaths

Causes of death—From the sections we have been able to make certain that the cause of death in most cases of perforative abdominal lesions is primary hæmorrhage, combined with an element of shock always present in these cases Next in importance appears to be general peritonitis, which, however, takes from about 48 hours onwards to bring about a fatal issue A few cases seem to die from pure shock due to tissue damage inflicted by irregular shaped missiles without any degree of hæmorrhage (e g, kidney and liver in one case), a few others from secondary hæmorrhage into the bowel

Cases not Operated upon

The following cases were not operated upon during this period, because patients were moribund, because no perforation was suspected, or because conservative treatment was considered advisable —Total number, 41, died, 17, evacuated to base, 24

It is of interest that of the cases deliberately treated conservatively not a single case died, though the bullet had traversed the peritoneal cavity quite obviously in a number of these The indications for conservative treatment were always the general appearance of the patient, absence of shock, the condition of the pulse, the state of the abdomen, and the course of the bullet

In conclusion we beg to express our indebtedness to our commanding officers, Colonel Way and Lieutenant Colonel J W Langstaff, for permission to publish these notes, as well as for the constant encouragement and help they have afforded us at all times in dealing with these cases In particular we have to thank the consulting surgeon of our army, Surgeon General Sir Anthony Bowlby, and during his absence Colonel Cuthbert Wallace, for their inestimable advice and their unfailing zeal in coming to our aid so frequently and so regularly

NOTE BY SURGEON GENERAL SIR ANTHONY BOWLBY

The hospital in which the operations described above have been done is one of the Casualty Clearing Stations, and is in tents pitched beyond ordinary shell fire The arrangements for sterilisation are much the same as in a civilian hospital, and the theatre is lighted by acetylene gas Many of the operations have been done in the middle of the night

We have all learned a good deal since the war began but there is much yet to learn In the earlier days we were still under the influence of the South African War, and most surgeons believed that bullet wounds of the abdomen did best if left alone. That was also the opinion of many surgeons who had been in the Balkan War As time went on we had occasion to change our minds for we heard from the surgeons at the base

PENETRATIVE WOUNDS OF ABDOMEN TABULAR STATEMENT OF 50 CONSECUTIVE OPERATION CASES

No	Age	Wounds of entry and exit. Sector of abdomen above or below umbilicus	Missile	Special signs or symptoms Pulse	1 Lesions found at operation 2. Peritoneal content	Treatment: 1 Incision 2. Of lesion 3 Drainage of peritoneal cavity	Result and days in station	After results: Intra abdominal respiratory; abdominal wall	Necropsy Whether done operation area; lesions missed other facts
1	13	Entry: 1 in below and to left of umbilicus No exit, but bruise on left buttock from where bullet was extracted later Narrow sector below umbilicus	Bullet	Pulse 112, good.	1 Two perforations of jejunum 6 in from duodenum 2. About two ounces of small intestine content quite local and some blood	1 Left rectus 2. Perforations sutured. 3 Pelvis drained	Evacuated to base 10 days	Severe diarrhœa on fourth day marked bronchitis wound suppurated	—
2	13	Entry: 12th rib right posterior axillary line No exit. Wide sector above umbilicus	High explosive shell	Hæmatemesis Pulse 136, thready	1 Ragged tear in small curvature of stomach about 1½ in long Large hæmatoma in wall of hepatic flexure of colon also wounds of both arms and legs 2. Enormous amount of blood in peritoneum	1 Right rectus 2. Perforation in stomach sutured 3 Under surface of liver drained	Died 24 hours after operation suddenly	Patient died after an enormous stool of fresh blood evidently a secondary hæmorrhage from hepatic flexure	No necropsy
3	19	Entry: Left margin of rectus 2 in above pubis No exit Narrow sector below umbilicus	Bullet	Abdomen rather distended and very rigid Pulse 132 thready	1 Single perforation of iliac colon and a strangulated hernia of whole of movable small intestine into an enormous ileocæcal pouch 2. Small escape of colon content.	1 Left rectus 2 Perforation in iliac colon sutured Retroperitoneal hernia reduced sac ligatured and mouth of sac closed with sutures 3 Pelvis drained	Died 12 hours after operation	Patient died of shock largely due to length of operation and difficulty in dealing with strangulated hernia	No necropsy
4	19	Entry: 1 in below and to right of umbilicus Exit 3 in below and 3 in behind left anterior superior iliac spine Narrow sector below umbilicus		Pulse 120	1 Two perforations in ileum about 4 ft apart. 2. Much blood	1 Left rectus 2. Perforations sutured 3 Pelvis drained	Evacuated to base; 7 days	—	—
5	[illegible]	Entry: At umbilicus Exit Just below 12th rib left posterior axillary line Narrow sector at umbilicus		Very blanched Pulse 140 thready	1 No bowel lesion found Bullet had torn lower pole of left kidney in passing out of abdomen 2. Enormous amount of blood	1 Left rectus 2. Two stitches into lower pole of kidney and peritoneum closed over it 3 Lumbar wound opened up and drained	Died in 12 hours Shock and original hæmorrhage	—	No peritonitis or bowel lesion found No fresh hæmorrhage into abdomen
6	13	Entry: 6th and 7th rib right posterior axillary line Exit: 6th and 7th rib left midclavicular line Wide sector above umbilicus		No vomiting Pulse 120	1 Bullet had passed through liver and gastro-hepatic omentum missing small curvature of stomach by ¼ in 2. Much blood	1 Right rectus 2 Wound on under surface of liver packed with gauze 3 Gauze drain	Evacuated to base 6 days	—	—
7	21	Entry: between 6th and 7th rib (right) 3 in from mid line No exit Narrow sector above umbilicus	Revolver bullet (accidental)	Hæmatemesis Pulse 124	1 Liver perforated but neither wound bleeding A ragged tear about 1½ in long found in lesser curvature of stomach about 1½ in from the pylorus 2. Much escape of mucus and bile	1 Right rectus 2. Stomach tear sutured 3 Under surface of liver drained	Evacuated to base 9 days.	—	—
8	20	Entry Just below umbilicus Exit 2 in external to right anterior superior iliac spine Narrow sector below umbilicus	Bullet	Pulse 96.	1 Bullet had not entered peritoneal cavity but had caused a large extraperitoneal hæmatoma Just beneath line of injury small hæmorrhage into omentum 2. Nil	1 Right rectus 2. Nil 3 Abdomen closed	Evacuated to base 5 days	—	—
9	[illegible]	Entry Just to left of mid line half way between umbilicus and pubis No exit Narrow sector below umbilicus	Large rivet from accidental explosion	Very blanched Pulse 130 thready	1 Rivet embedded in mesentery of ileum at bowel attachment Small tear in peritoneal coat of bowel at same site Tear in mesentery 1 in long and mesenteric vessels still bleeding 2. Enormous amount of blood	1 Right rectus 2. Bleeding vessels ligatured and hole in mesentery closed Tear in peritoneal coat of ileum sutured 3 Pelvis drained	Evacuated to base 9 days	Marked bronchitis patient also had compound fracture of left radius and ulna near elbow joint	—
10	[illegible]	Entry 1½ in below and 1½ in to left of umbilicus No exit Narrow sector below umbilicus	Shrapnel	Very blanched Pulse 12[illegible], thready	1 Four perforations in jejunum found and two tears in small intestine mesentery the vessels of which were still bleeding 2. Enormous amount of blood	1 Left rectus 2. Perforations sutured Tears in mesentery sutured 3. Pelvis drained	Died in 15 hours Shock and original hæmorrhage	—	No necropsy
11	[illegible]	Entry 1 in below right anterior superior iliac spine Exit Bullet lying under skin 2 in above pubis and 1 in to left of mid line in anterior abdominal wall Narrow sector below umbilicus	Bullet	Pulse 120.	1 Three perforations in ileum; loop of jejunum 10 in long much damaged; slit longitudinally for 4 in and three other perforations in it 2. Much blood and small intestine content	1 Left rectus 2. Perforations in ileum sutured 10 in of jejunum resected and united by lateral anastomosis 3 Pelvis drained	Died 3 days after operation	Severe diarrhœa on second day; peritonitis	Necropsy Anastomosis sound; no lesions missed; very intense general peritonitis; coils of intestine [illegible] together

12	[illegible]	Entry: Just below right anterior superior iliac spine No exit Narrow sector below umbilicus		Very blanched; no pulse at wrist.	1 Ileum perforated in three places Ragged tear in mesentery of ileum 1½ in long Vessels still bleeding 2. Much blood	1 Left rectus; [illegible] line of incision lying in muscle 2. Perforations in ileum sutured; tear in mesentery sutured still pulseless on leaving table 3 Pelvis drained	Evacuated to base; 21 days	[illegible] in pelvis suppurated and patient developed signs and symptoms suggesting subdiaphragmatic abscess but these cleared up without further interference. Very severe hiccough for first 36 hours	—
13	19	Entry: 3 in behind left anterior superior iliac spine and 1 in below crest of ilium No exit Wide sector below umbilicus		Urine normal Pulse 100	1 Last loop of ileum perforated in three places Much local peritonitis 2. No bleeding Large escape of bowel content with marked fæcal odour	1 Left rectus 2 Perforations in ileum sutured and liquid fæces carefully mopped up 3 Pelvis drained	Evacuated to base; 10 days	Severe diarrhœa on second day; bronchitis Much discharge from pelvic drain	—
14	25	Entry: 8th rib left anterior axillary line Exit: 7th rib right mid axillary line Wide sector above umbilicus		On admission pulse 88; 3 hours later 120 and hæmatemesis	1 Two perforations in anterior wall of stomach 1½ in apart Tear on under surface of liver still bleeding Falciform ligament distended with blood 2. Blood and gas from stomach	1 Left rectus 2. Perforations in stomach sutured Wound on under surface of liver packed with gauze 3 Gauze drain	Evacuated to base 6 days	—	—
15	14	Entry 10th rib mid axillary line No exit Wide sector above umbilicus	High explosive (bomb)	Very frequent vomiting Pulse 120	1 Tear on right side of liver 2. Much blood	1 Right rectus 2. Liver wound packed with gauze 3 Gauze drain	Died 5 days after operation	Patient died quite suddenly with symptoms suggesting secondary hæmorrhage	No necropsy
16	22	Entry: Just below 12th rib in left mid axillary line No exit. Wide sector above umbilicus	High explosive shell	Pulse 120	1 Large tear in anterior wall of descending colon 2 Some escape of fæcal matter	1 Left rectus 2 Perforation stitched Transverse colotomy 3 Drainage through lumbar wound	Evacuated to base; 5 days	—	—
17	23	Entry: 7 8th rib left posterior axillary line No exit Wide sector above umbilicus	Shrapnel	Very blanched Pulse 132	1 Tear in lower angle of spleen No other lesion found Profuse bleeding 2 Enormous amount of blood	1 Left rectus 2 Spleen tightly packed with gauze 3 Gauze drain	Evacuated to base 9 days	Packing around spleen removed on fourth day after operation No fresh bleeding	—
18	42	Entry: Right posterior axillary line 1 in below crest of ilium Exit: Left groin close to pubic spine Narrow sector below umbilicus	Bullet	Profuse hæmaturia On admission pulse 96; 12 hours later 120	1 Two perforations in last loop of ileum; marked peritonitis Posterior wall of bladder bruised but not perforated 2 Much escape of bowel content with marked fæcal odour	1 Right rectus 2 Perforations stitched 3 Pelvis drained	Died 12 hours after operation Shock and peritonitis	—	No necropsy
19	30	Entry: Three wounds between left 12th rib and iliac crest No exit Narrow sector below umbilicus	Shrapnel	Pulse 128	1 No lesion found except bruise in omentum 2 Small quantity of free blood in peritoneum	1 Left rectus 3 Abdomen closed	Evacuated to base; 3 days	—	—
20	35	Entry: 1 in below sternum and just to right of mid line No exit Narrow sector, above umbilicus	Bullet	Very pale Pulse 120	1 Large tear on anterior surface of liver; bleeding profusely also from tear on under surface Bullet passed through gastro-hepatic omentum just missing stomach 2 Much blood	1 Right rectus 2 Liver packed with gauze 3 Gauze drain removed on fourth day	Evacuated to base; 6 days	—	—
21	37	Entry: Over left posterior superior iliac spine Exit: Bullet lying under skin 2 in above pubis just to left of mid line Narrow sector, below umbilicus	Shrapnel bullet	Pulse 120	1 Four perforations in ileum and two in jejunum Mesentery uninjured 2 Little blood	1 Left rectus 2 Perforations in ileum and jejunum sutured 3 Pelvis drained	Evacuated to base 8 days	Bronchitis	—
22	21	Entry: ½ in below and 1 in to right of umbilicus Exit: 2 in above iliac crest mid axillary line Narrow sector below umbilicus	Shrapnel	From exit wound large amount of liquid fæcal matter was escaping Pulse 120	1 Loop of ileum perforated in two places lower tear 3 in long also small tear in mesentery of ileum 2 Small intestine content locally No blood	1 Incision over track of missile 2 10 in of ileum resected and end to-end anastomosis done 3 Peritoneum drained locally through posterior angle of wound	Evacuated to base; 7 days	Bronchitis Much suppuration of abdominal wound	—
23	30	Entry: Right mid axillary line half way between last rib and crest of ilium No exit Narrow sector below umbilicus	High explosive shell	Pulse 100	1 Irregular piece of copper band found embedded in wall of ascending colon Lumen of bowel not opened 2. Little blood	1 Right rectus 2. Peritoneal tear in ascending colon sutured 3 Drained through wound of entrance	Evacuated to base; 6 days	Bronchitis	—
21	21	Entry: Left linea semilunaris 1 in below umbilicus No exit. Wide sector below umbilicus	Bullet	From entrance wound there was extruded a small loop of small intestine covered with omentum Pulse 140, thready	1 Loop of jejunum 12 in long found perforated in six places and nearly severed in two places Knuckle of bowel protruding through wound was also bruised but uninjured 2. Much blood	1 Left rectus 2 Bullet not found 1 ft of jejunum resected and end to-end anastomosis done Piece of extruded omentum ligatured and removed Pulseless on leaving table 3 Pelvis drained	Evacuated to base 11 days	Bronchitis Suppuration in entrance wound	—

PENETRATIVE WOUNDS OF ABDOMEN TABULAR STATEMENT OF 50 CONSECUTIVE OPERATION CASES—(*Continued*)

	Age	Wounds of entry and exit Sector of abdomen above or below umbilicus	Missile	Special signs or symptoms Pulse	1 Lesions found at operation 2 Peritoneal content	Treatment: 1 Incision 2 Of lesion 3. Drainage of peritoneal cavity	Result and days in station	After results: Intra abdominal respiratory abdominal wall	Necropsy: Whether done operation area lesions missed other facts
[illegible]	19	Entry: ½ in below right anterior superior iliac spine No exit Wide sector below umbilicus	Bullet	Pulse 140 thready	1 Ileum nearly divided across Loop of jejunum close to duodenum perforated in six places nearly across in two places Bullet found lying free on omentum near lower border of stomach 2 Much blood	1 Right rectus 2 4 in of ileum resected end-to-end anastomosis 18 in of jejunum resected end-to-end anastomosis Pulse 140 on leaving table 3 Pelvis drained	Died 18 hours after operation	—	Necropsy Resections perfect Transverse colon near splenic flexure found to have three perforations in it Also tear in transverse meso-colon Marked general peritonitis
[illegible]	20	Entry Left linea semilunaris just below umbilicus No exit Narrow sector below umbilicus	Shrapnel	Pulse 112	1 Single perforation in jejunum Missile not recovered 2 Some blood	1 Left rectus 2 Perforation in jejunum sutured Pulse 120 on leaving table 3. *Pelvis drained*	Evacuated to base; 8 days	Bronchitis Some suppuration in lower angle of wound	—
27	20	Entry: At tip of coccyx Exit: Large wound just below and to right of umbilicus Wide sector below umbilicus	Bullet	From exit wound large piece of omentum was extruded Pulse 140 thready	1 Loop of ileum 20 in long perforated in seven places Ileum perforated in two other places One perforation of jejunum Two perforations in iliac colon one perforation in rectum very low down 2. Much blood	1 Left rectus 2. Loop of ileum 20 in long resected end to end anastomosis Perforations in ileum jejunum iliac colon and rectum sutured 3 Pelvis drained	Died 12 hours after operation	—	Necropsy Sutures and resection apparently perfect. Very little peritonitis No fresh hæmorrhage Patient died from shock and hæmorrhage
[illegible]	30	Entry: Loin left side touching [illegible]th rib scapular line Exit: Nil Course: Posterior abdominal wall above umbilicus	Shrapnel	Hæmaturia No vomiting Pulse under 120 moderate quality	1 Kidney perforated 2. Full of blood	1 Centre of left rectus 2 Drainage of posterior wound 3 Peritoneal cavity not drained	Evacuated to base; 7 days	Urinary fistula posteriorly sixth day	—
[illegible]	33	Entry: Loin left side through 12th rib ½ in from mid line Exit: Bullet lodged at epigastrium under skin midway between xiphisternum and umbilicus Narrow sector above umbilicus		Hæmaturia. Vomiting marked Pulse 140 poor	1 Perforation of kidney and jejunum two rents 2 Blood in quantity No escape of intestinal content	1 Left rectus 2 Drainage of posterior wound suture of perforations 3 Peritoneal cavity drained	Death in 14 days Toxæmia of suppuration in wound	Slight bronchitis B coli suppuration in abdominal wall	No necropsy Doubtful if all lesions treated
[illegible]	[illegible]	Entry: Left hypochondrium centre on mid-clavicular line; omental tag protruding Exit: Nil Narrow sector above umbilicus	Rifle bullet	Hæmaturia; marked hæmatemesis Pulse uncountable thready and very feeble	1 Stomach two rents one on anterior and one on posterior wall Jejunum four holes (rents) Left kidney perforated 2 Blood stomach content gas and small intestinal content in greater and lesser sacs	1 Mid line 2 Suture of stomach resection of 3 in of jejunum circular anastomosis 3 Drainage + of lesser sac	Evacuated to base 11 days	Slight bronchitis	—
[illegible]	[illegible]	Entry: Left 1 in; large laceration 1½ in across fracturing [illegible]th rib Exit: Nil Course: Posterior abdominal wall above umbilicus	High explosive shell fragment	Hæmaturia; hæmoptysis; vomited twice Pulse 1[illegible]0 poor	1 Left kidney lacerated; good deal of hæmorrhage Rent in posterior peritoneum 2 Blood in quantity	1 Left rectus 2 Packing of posterior wound 3 Not drained	Evacuated to base 5 days Improved in general condition	Fæcal fistula third day Slight bronchitis	—
[illegible]	[illegible]	Entry Left 1 in posteriorly [illegible] in above crest ilium scapular line Exit Nil Course [illegible] posterior abdominal wall above umbilicus	Whizz bang shell fragment	No vomiting Pulse 110 good	1 No intraperitoneal lesion found 2 Blood in quantity	1 Left rectus 2. Drainage of loin wound 3. Peritoneal cavity not drained	Evacuated to base; 8 days	Fæcal fistula second day from posterior wound Slight bronchitis Fæcal escape from anterior wound third day	—
[illegible]	[illegible]	Entry 1½ in to right of umbilicus and slightly below Exit Nil Wide sector below umbilicus	Rifle bullet	Vomiting present Pulse thready and feeble	1 Jejunum five rents over 8 in of gut Ileum three rents in 3 in of gut and one isolated rent 2. Blood in quantity Small intestinal content	1 Right rectus. 2 9 in jejunum resected lateral anastomosis 4 in ileum resected circular anastomosis Suture of isolated rent 3 Drainage	Evacuated to base 16 days	Bronchitis Suppuration of wound necessitating secondary suture	—
[illegible]	[illegible]	Entry 1 in above anterior superior spine 1 in external to [illegible]axillary line left side Exit Nil Wide sector below umbilicus		Vomiting present Normal pulse	1 Ileum one isolated perforation four rents in 4 in of gut Descending colon fixed portion one rent 1 in long 2 Blood in large quantity Small intestinal content At least [illegible] [illegible] matter	1 Just external to left rectus 2. Suture of isolated perforation Resection [illegible] in ileum circular anastomosis. Suture of rent in colon 3 Drainage	Death 23 hours later General peritonitis and shock	Regurgitant vomiting	Necropsy All [illegible] satisfactorily dealt with Early general peritonitis

[illegible]	[illegible]	Entry: Lacerated wound through [illegible] rib right [illegible] back just [illegible] spine Exit: Nil Wider sector above umbilicus	Whizz bang shell fragments	Hæmaturia. Vomiting present Pulse thready just perceptible	1 Kidney soft upper pole rent made out Liver damaged 2. Small amount of blood stained bile	1 Right rectus 2. Nil 3 Not drained	Death 21 hours later Shock	—	Necropsy Upper third of kidney badly lacerated; also right lobe of liver Shell fragment 1¼ in long removed from liver
7	[illegible]	Entry: Two small wounds left [illegible] axillary line just [illegible] anterior superior spine Exit: Nil Narrow sector below umbilicus	Trench mortar shell fragments	Vomiting present Pulse 120 feeble	1 Jejunum two perforations 2. Turbid fluid in peritoneal cavity	1 External to left rectus. 2. Suture of two perforations 3 Not drained	Evacuated to base; 8 days	Good deal of pain Bronchitis	—
57	22	Entry: Right buttock centre at gluteal fold Exit: Nil Wider sector below umbilicus	High explosive fragment	Vomiting present Pulse 120 moderate	1 Ileum four perforations mesentery four perforations and two contusions 2 Purulent and feculent fluid in peritoneal cavity	1 Mesial incision 2 Resection of 2½ in ileum circular anastomosis. Invagination of contused mesentery 3 Drainage	Evacuated to base 6 days	Slight bronchitis	—
[illegible]	13	Entry: Multiple back one just below 11th rib right side deep Exit: Nil Above umbilicus	Shrapnel	Vomiting present Hyperæsthesia over right side of abdomen and back Pulse 120 moderate under $CHCl_3$ down to 80 and good	1 Nil 2. Nil	1 Right rectus 2 Nil 3 Not drained	Evacuated to base 5 days	—	—
[illegible]	25	Entry: Epigastric 1 in to right and 2 in above umbilicus Exit: Nil Narrow sector above umbilicus	Rifle bullet	Vomiting present. Pulse 110 moderate	1 Jejunum two large rents involving mesenteric border Large bleeding rents in great omentum 2. Blood and intestinal content	1 Right rectus. 2 Jejunum resection 4 in circular anastomosis Omentum sutured 3 Not drained	Evacuated to base 36 days later	Serious and obstinate purulent bronchitis Marked suppuration of wound necessitating secondary suture 19 days later	—
9	8	Entry: Epigastric ½ in to left of mid line 2 in from xiphisternum Exit: Nil Wider sector above umbilicus	High explosive	Vomiting present Pulse thready barely perceptible	1 Jejunum: (*a*) Four small perforations isolated (*b*) In 8 in of gut five rents two rents of mesentery (*c*) In 3 in of gut two large rents In great omentum one rent. 2. Blood small intestinal content lymph in quantity	1 Right rectus 2 Jejunum: (*a*) Four holes sutured (*b*) Resection 9 in circular anastomosis (*c*) Resection 4 in circular anastomosis 3 Drainage	Death 5 hours later Shock and hæmorrhage	—	Necropsy All lesions dealt with
11	24	Entry: Left buttock Exit: About midway between umbilicus and symphysis rent 1 in in diameter Wider sector below umbilicus	Rifle bullet	Vomiting present Pulse thready barely perceptible	1 Ileum: (*a*) In 20 in of gut ten perforations and rents of various sizes and shapes (*b*) Isolated rent Mesentery: One large rent, bleeding 2. Blood gas small extravasation fæcal matter	1 Left rectus 2. Ileum: (*a*) 21 in resected lateral anastomosis (*b*) Suture of isolated rent. 3 Drainage	Evacuated to base 13 days	Marked hiccough regurgitant vomiting Bronchitis B coli suppuration in exit wound secondary infection of sutures No need for secondary suture	—
42	20	Entry: 1 in to left of mid line just below 12th rib Exit: Nil Wider sector above umbilicus	Shrapnel bullet	Sighing rapid catchy respirations Vomiting Pulse absent at first three hours later just perceptible	1 Diaphragmatic rent 2 in long Hernia of 3 or 4 ft. of jejunum through diaphragm one coil of which four perforations splenic flexure colon two rents 2. Blood in large quantity	1 Mesial incision 2nd oblique from umbilicus to lower costal margin 2. Suture of diaphragm not complete operation abandoned patient moribund	Death half hour later Shock and hæmorrhage	—	Necropsy Great omentum spread over base of left lung Bullet removed from left lung
43	[illegible]	Entry: Just below 12th rib posterior axillary line Exit: 1 in below xiphisternum mid line Wider sector, above umbilicus	Rifle bullet.	No vomiting Pulse 84 rose to 110 in 24 hours during which he was watched	1 Liver perforated and bleeding Gastro-hepatic omentum scored 2 Blood and bile in large quantity	1 Right rectus 2 Liver packed to stop hæmorrhage 3 Drainage	Evacuated to base 10 days	Delirious for 48 hours Vomiting Marked bronchitis	—
44	19	Entry: Left hypochondrium below costal margin anterior axillary line Exit: Nil Narrow sector above umbilicus		No vomiting Pulse 90, good	1 Bullet lodged behind peritoneum below spleen Palpated with ease 2. Nil abnormal	1 Outer side left rectus 2. Bullet left *in situ* 3 Drainage	Evacuated to base 6 days	—	—
45	21	Entry: McBurney's point right side lower abdomen Exit: Nil Wider sector below umbilicus		Vomiting present Pulse 80 good	1 Ileum perforated in six places bullet peeping through one coil having just penetrated 2. Purulent fluid as in suppurative appendicitis	1 Outer side right rectus 2 Ileum suture of six perforations Appendectomy 3 Drainage	Evacuated to base 6 days	Slight bronchitis	—
46	23	Entry: Multiple wounds back One on right side below 12th rib 1½ in from mid line admitting whole length of forefinger towards peritoneal cavity Exit: Nil Non penetrative above umbilicus	High explosive	Vomiting present. Pulse 130 feeble	1 Piece of shell and clothing removed lying in contact outer side of peritoneum left loin 2 Nil abnormal	1 Right rectus 2. Wounds cleansed Pieces of shell removed 3 Peritoneal cavity not drained	Evacuated to base 8 days	No bronchitis	—

PENETRATIVE WOUNDS OF ABDOMEN TABULAR STATEMENT OF 50 CONSECUTIVE OPERATION CASES—(*Continued*)

No	Age	Wounds of entry and exit Sector of abdomen, above or below umbilicus	Missile	Special signs or symptoms Pulse	1 Lesions found at operation 2. Peritoneal content	Treatment: 1 Incision 2. Of lesion 3 Drainage of peritoneal cavity	Result and days in station	After results: Intra abdominal respiratory abdominal wall	Necropsy: Whether done operation area lesions missed other facts
47	30	Entry: 1 in below and 1 in to left of umbilicus Exit: Nil Narrow sector below umbilicus	Rifle bullet	No vomiting Pulse 100 good	1 Ileum, three perforations *mesentery* one perforation two bruises 2. Blood in quantity	1 Left rectus 2 Ileum perforations sutured mesentery hole sutured, bruises invaginated 3 *Drainage*	Evacuated to base 7 days	Bronchitis	—
48	31	Entry: Right buttock just posterior to great trochanter 1 in below tip Exit: Nil Wider sector below umbilicus	"	Hæmaturia. Vomiting present. Flicker occasionally otherwise pulseless.	1 Ileum: (*a*) One isolated perforation (*b*) Ten perforations and rents in 13 in small intestine Mesentery Four large rents bleeding still 2. Blood and small intestinal content	1 Mid line 2. *Ileum* (*a*) *Single* perforation sutured (*b*) 14 in resected lateral anastomosis 3 Drainage	Death *half* hour later Shock and hæmorrhage previous to operation	—	Necropsy Sutures satisfactory No lesions missed Side of bladder contused
49	21	Entry: McBurney's point right lower abdomen Exit: Bullet lodged under skin left buttock Wider sector below umbilicus	Shrapnel bullet	*Vomiting present No* radial pulse	1 *Pelvic colon two rents* Ileum 11 rents in 44 in necessitating three different *resections or one* large one Mesentery five different rents 2. Blood small intestinal content, gas	1 Right rectus 2. Pelvic colon sutured Ileum 44 in resected *Ileocolostomy end to side just* above cæcum 3 Drainage	Death while suturing wall of abdomen Shock and previous hæmorrhage	—	Necropsy Operation area satisfactory No lesions missed
50	5	Entry: Just below xiphisternum and 1 in to right of mid line Exit: Nil Wider sector above umbilicus	High explosive fragment.	Vomiting present No radial pulse	1 Liver badly lacerated Stomach rent in lesser curvature Gastro hepatic omentum torn Duodeno jejunal flexure two rents 2. Blood bile intestinal content	1 Mid line 2. Stomach rent sutured Liver two torn fragments 1 in square resected; sutured Jejunum sutured 3 Drainage	Death 8 hours later Shock and hæmorrhage	—	Necropsy Operation area *satisfactory* Two holes in third part of duodenum missed

that many of our patients who seemed to be doing well ultimately died from peritonitis, and we also found by making post mortem examinations that the lesions of the viscera were generally so severe and extensive that they could not possibly repair themselves We further found that hæmorrhage from vessels which could have been tied was a common cause of death, and we also noticed that in many cases of injury of the small intestine there was very little immediate escape of contents and soiling of the peritoneum, *so that the conditions* for operation were better than we had expected

It is easy enough now to realise these facts, but preconceived ideas die hard, and early in the war there was too great a rush of events to give time for investigation *During* the retreat, and the battles of the Marne and the Aisne, the various medical units had more work than they could well do, and in the fierce fighting at Ypres we were always struggling with even larger numbers of wounded In spite of these difficulties a certain number of abdominal operations were done, but the results obtained rather deterred than encouraged the operators It was not till this period was passed that it became possible to equip the casualty clearing stations for their new rôle as emergency hospitals and to make post mortem examinations Early in the past year Captain Owen Richards had several successful cases of intestinal resection and suture, and during the ensuing spring and summer more and more cases were operated upon with *gradually increasing success*, so that ultimately for the past five or six months it has come to be the custom to look upon all abdominal wounds as probable cases for operation

The effect of this new outlook has been that instead of patients being kept in field ambulances they are despatched as speedily as possible to the casualty clearing stations, and I have seen patients on the operating table within two and a half hours of being hit in the trenches, and just in time to save life from hæmorrhage

The essentials for success in operations upon gunshot wounds of the abdomen may be briefly stated as follows —1 Rapid transport to hospital 2 Suitable antiseptic and aseptic conditions for operation 3 *Good nursing and suitable feeding* 4 *Opportunity for* retaining the patient for at least a week or 10 days before evacuation

I am altogether opposed to the idea of operating in "dug outs" or ruined houses close to the trenches, or in field ambulances which may have to be suddenly emptied In the former the conditions necessary for success in the operation itself cannot be provided, and in neither can the patient be kept as long as is essential if he is *to be given* the best chance of recovery *It may* be admitted that it is not a good thing for a wounded man to have to be driven several miles before an operation is done, but it must be also realised that it is a much worse thing to drive him the same distance directly *after an operation*, and, as he cannot be left indefinitely in a dug out or a field ambulance, the sooner his journey is started and got over and the earlier he gets to a place where he can remain the more chance will the surgeon have of doing his best for his patient

Both post mortem examinations and operations have convinced everyone that the majority of patients who die with perforating abdominal wounds die from hæmorrhage and we are all also agreed that if the intestine is opened by a bullet or shell fragment the patient will almost certainly die from peritonitis if he does not die from [illegible]

The reason for this opinion is not based merely on clinical observations, but on the very extensive and numerous lesions which are so often found, and which are well illustrated in the present paper We have also learned by operations that both bullets and shell fragments may traverse the intestinal area without wounding the bowel, and that many wounds which appear to perforate do not really do so Another striking fact of much practical importance is that no less than 24 wounds out of the total of 50 were due to missiles which entered the flanks or the gluteal region, while in other cases the wound of entry may be through the chest or even through the shoulder or neck

It will be noticed that out of a total of 91 patients admitted 41 were not operated upon, 17 of them because they were past help, and the remaining 24 because it was not considered necessary All of the latter recovered—a fact which demonstrates that selection is justifiable My own advice has been that all wounds without exception which seem likely to involve the area of the small or large intestine should be subjected to an exploratory operation, and that a laparotomy should be done if the peritoneum is found to have been involved Operation should also be done in all those wounds of the gluteal and lumbar regions where the symptoms point to a visceral lesion I do not advise operation in the epigastric or hepatic regions, especially in antero posterior wounds, if there are no definite symptoms, but if there is evidence of continuing bleeding then operation should be undertaken The same holds good of the renal and splenic regions, but it is too early to regard these opinions as final

It will be seen that the intestines or the stomach were wounded in 34 cases out of the total of 50, and that of these patients no less than 21 recovered in spite of multiple perforations in many cases and of serious injury to other viscera as well Resection appears at first sight to be much more fatal than suture, but it must be remembered that the injuries which necessitated resection were also much the more serious and that the patients were far more ill

It may fairly be claimed that in all the cases of wounds of the intestine and in most of the others who recovered the lives of the patients were saved by the operation

THE TREATMENT OF "CONCUSSION BLINDNESS"

By ARTHUR F HERTZ, M D Oxon, F R C P Lond,
MAJOR R A M C

AND

ARTHUR W ORMOND, F R C S Eng, L R C P Lond,
CAPTAIN R A M C (T)

ONE of the principal ocular features of the present war is the number of cases of functional blindness due to the violent explosions caused by high explosive shells, bombs, hand grenades, &c These cases may or may not have sustained definite organic injuries, but the clinical symptoms characterising their functional nature are very clearly marked Usually the patient has been rendered unconscious by an explosion in his close vicinity, and on regaining consciousness he finds that he is unable to see When examined he presents the following symptoms The eyes are kept closed the lids may be frequently 'fluttered' or as one man stated he could not keep his eyes from twinkling On attempting to open the lids the patient resists forcibly by means of his orbicularis, when this is overcome to a sufficient extent to see the globes, they are found to be rolled forcibly upwards, and the pupils are always kept covered by the lids, he has great difficulty in looking downwards, and complains of pain and photophobia, and shows marked fatigue as a result of the examination. In some cases I (A W O) have noticed an acceleration of the pulse rate and also perspiration The photophobia is not, however, really influenced by light, as the condition does not diminish in very subdued illumination These patients never move about as blind men would, they invariably avoid hurting themselves, but all the same they never relax, even if watched for weeks at a time, the groping action of people with extremely defective sight, and judged by every test they maintain this condition indefinitely and are undoubtedly psychically blind The pupils react normally and the fundus shows no definite change There is no difficulty in differentiating them from malingerers, as they pass through long periods of real mental distress and serious discomfort These cases vary enormously in severity, some recover rapidly, others seem to go on indefinitely if not treated, or treated unsuccessfully Any lack of recognition of the condition in the early stages enormously prejudices the prognosis One patient having been told that he was blind remained so for several months, whereas probably if it had been recognised earlier that he was not blind and would recover he would have done so much more rapidly

Early in the war I treated these cases in several ways, all with disappointing results, some of the slighter cases certainly did recover, but they recovered in spite of treatment and not on account of it The main principles on which I worked were rest, tonics, deprivation or punishments such as abstention from tobacco, confinement to bed or in isolation rooms, persuasion, encouragement, counter irritation, talking, &c, but all these means were comparatively ineffective until suggestion and hypnosis were tried In August, 1915, I thought it would be advisable to try suggestion, although I had a strong personal prejudice against its use, but when later on these cases still remained on my hands I consulted with Dr Hertz, and we decided to start the hypnotic treatment The method employed was to have the men singly in a darkened room, quiet, and resting in the most comfortable armchair the ward could provide They were instructed as to what was to be attempted, and no demur was ever made by any of them, but, on the contrary after the first experience they were always eager to continue the treatment The patient had his eyes closed, of course, so that the assistance of light and fixation could not be obtained, but he was told to think of something pleasant and agreeable, not to take the slightest notice of the operator, to relax his mind by attempting to stop all incoming thoughts and to make his mind as far as *possible*, a blank We then used the usual methods of inducing hypnosis In some cases—for example, Case 1—the hypnotic condition was obtained, but not in all, and I do not think it at all necessary to obtain complete unconsciousness, the main thing to be arrived at is to obtain a relaxation of the patient's mind and his muscles and to overcome his unconscious resistance

The treatment is carried on thus for a few minutes, and having obtained the sleepiness or light hypnosis necessary, the patient is subjected to a forcible suggestion from the operator, who reiterates the patient's ability to see and to open his eyes and to assert very vehemently that he is not blind as he imagines, but that his eyes are perfectly sound and that he *can* see

The results have varied considerably as to rapidity of recovery, but all have shown marked improvement, the most drastic being that of the patient in Case 1 the most resistant being the deaf and blind man (Case 5) Cases of this nature have been constantly arriving from France and Gallipoli, but I here insert the notes sent to me by Dr Hertz immediately previous to his departure for Alexandria, as they were the earliest ones with which we dealt and are quite typical, and in all of them, except in the last case, Dr Hertz collaborated with me in their treatment, they, however, only represent a small proportion of the total number of cases

Notes of Cases by DR. HERTZ

CASE 1 —The patient, aged 22, was looking over a parapet on July 18th, 1915 when a shell struck the sandbags in front of him He remembers the sand being thrown up into his eyes and his falling back so that he knocked his head He remained unconscious for 24 hours When he regained consciousness he found that he was completely blind, except that he could just distinguish light from darkness with his left eye His eyes felt very sore and his eyelids were constantly moving up and down he was partially deaf and had a severe headache His hearing soon returned, and the headache rapidly improved, but the condition of his eyes had not altered when I first saw him with Mr Ormond on Sept 17th He was quite blind and there was a constant flicker of his eyelids, which were kept almost closed On forcibly opening his eyes they were found to be turned so far upwards that it was difficult to see even the iris A few fragments of sand were still embedded in the conjunctiva but not in the cornea, there was no inflammation present

The patient was easily hypnotised, and whilst asleep he was told that he would be able to see when he woke up The moment he awoke the suggestion was repeated very forcibly, and his eyes were held open He cried out that he could see, tears ran down his cheeks, and he fell on his knees in gratitude, as he thought that he was permanently blind and believed that his sight had been restored by a miracle When seen again on Sept 20th the external appearance of his eyes was normal, and he said that he was able to see as well as he had ever done Mr Ormond however, found that there was some opacity of the vitreous of the left eye secondary to hæmorrhage from a retinal vessel which had ploughed its way forward, this was doubtless a result of injury at the time of the explosion There has been no return of symptoms and the patient was well in every way when I last saw him on Sept 30th His vision was 6/6 in the right eye and 6/36 in the left

CASE 2 —The patient had an attack of blindness resulting from conjunctivitis caused by a sandstorm when in Egypt early in 1915 He recovered from this after ten weeks, and six weeks later went to the Dardanelles On July 12th a shell struck a sandbag immediately in front of him and the sand flew into his eyes He did not lose consciousness but his sight gradually became more and more deficient until at the end of ten days he was only just able to distinguish light from darkness Very slight improvement occurred spontaneously but his condition when seen on Sept 17th was identical with that of the patient in the preceding case, a few pieces of grit being still embedded in the conjunctiva although there was no inflammation

The patient was easily hypnotised but there was very little improvement at the moment Considerable improvement however occurred during the next three days He was hypnotised on three more occasions he could see perfectly well on Sept 30th but still had some photophobia and wore dark glasses as he could not avoid constantly blinking when they were removed He was therefore hypnotised once again and it was suggested to him that the photophobia and blinking would now cease The result was completely successful as all symptoms had disappeared by Oct 4th, although no attempt had been made to remove the grit from the conjunctiva

CASE 3 —The patient, aged 20 was rendered unconscious for a few minutes as a result of the explosion of a shell near him on August 21st in the Dardanelles Some of the powder was blown into his eyes, which were very sore when he regained consciousness, although he was still able to see quite well During the next 24 hours his vision became more and more impaired The powder was removed from his eyes when he was taken on board the hospital ship and his eyes were bandaged After a few days he thought he would be able to see quite well if the bandages were removed but the medical officer in charge told him that it would be dangerous to do so During the voyage home he was not allowed to remove the bandages and he became more and more convinced that this must be because the medical officer thought he was blind The bandages had not been removed when he was admitted into the hospital on Sept 25th When they were removed he was found to be in exactly the same condition as the preceding patients He could distinguish light from darkness, but was unable to see anything and he kept his eyes turned up and his eyelids closed and constantly contracting

On Sept 27th he was hypnotised by Mr Ormond after which he found that he could see quite well but the light still worried him and the blinking continued, though to a diminished extent He completely recovered subsequently and returned to his depot

CASE 4 —The patient aged 29, was knocked over by a high explosive shell in the Dardanelles and remained unconscious for a considerable time On coming round he found he could only distinguish light from darkness, there was no smarting of the eyes, but he constantly blinked He had a slight headache, but was otherwise well He began to improve about Sept 10th, so that he could recognise shadows passing in front of his eyes, but no further improvement occurred until he was hypnotised on Sept 18th There was very slight improvement as the result of suggestion at the time, but when seen again on the 20th he said that he was beginning to recognise objects and the blinking was less marked than before, but he still kept his eyeballs turned upwards and his eyes almost closed He was hypnotised again on Sept 20th and 25th, and when seen on the 30th his sight was quite normal and the blinking had completely ceased Subsequent retinoscopic examination revealed the presence of a considerable degree of myopic astigmatism in the right eye and mixed astigmatism in the left

CASE 5 —The patient was signalling from a gun limber on April 28th when he was blown up and remained unconscious for six days There was no external wound but on regaining consciousness he found that he was blind except that he could just distinguish light from darkness, he was also completely deaf and was unable to speak He regained his speech in June, after a fortnight's treatment by hypnotism at Plymouth but his sight and hearing remained unaltered

When I saw the patient on Sept 17th he could only be made to hear by shouting down an ear trumpet, he kept his eyelids almost closed and constantly twitching with his eyeballs turned upwards He was extremely depressed as he had been told by an aurist that he would never regain his hearing as it was said that nerve deafness of such long duration could not improve although the drums were intact He concluded that the blindness would also be permanent It was not easy to hypnotise him as he was unable to see and all suggestions had to be shouted down his trumpet but Mr Ormond succeeded in doing this at the first attempt When seen on Sept 20th he said that his sight was distinctly better and he was able with difficulty to open his eyes He was much more cheerful particularly when we told him that his hearing would also return as his auditory nerves were no more organically diseased than his optic nerve On Sept 29th there was some further improvement as he could see everything in the outer part of his left field of vision fairly well He was having a good deal of domestic worry which no doubt prevented a more rapid improvement

CASE 6 —The patient was unconscious for [illegible] after being blown up by a shell on August 7th He was unable even to distinguish light from darkness when he recovered consciousness but he very gradually improved He was admitted into the hospital on August 22nd after which his [illegible] was much more rapid and by the end of Sept when he had quite recovered [illegible]

CASE 7 —The patient aged 20 had never [illegible] left eye owing to an extreme degree of hypermetropia [illegible]

When the other eye was covered he could only see very indistinctly with it but in spite of this he managed to pass the medical examination when he entered the army He was hit on the left side of the head by the butt of a rifle in June and was unconscious for a few minutes When he regained consciousness he at once noticed that he could not see at all with his left eye, although he had hitherto been in the habit of neglecting the blurred image he saw with this eye On August 10th he received a slight wound to his left thigh, but continued on duty The wound had not completely healed, and was still somewhat painful when on August 23rd he was blown up by a high explosive shell When he regained consciousness he was being carried on a stretcher The pain from his old wound drew his attention to his left leg, and he thought that he was unable to walk. When taken on the ship he found that this was the case, although there was no new injury of the leg He also complained of severe pain above the left eye which he kept covered by a shade, as he found that the least light greatly increased the headache, when the shade was removed he was unable to open the eye at all For some time he was in an extremely excited condition and he slept very badly owing to nightmares His eye was kept covered by a shade during his journey home from the Dardanelles On his arrival in England Mr C M Ryley found that beyond the hypermetropia his left eye was normal, although he was quite unable to see anything with it

The patient was hypnotised on four different occasions After the first he already slept better the nightmares ceasing and the headache being less severe. On the second occasion whilst still asleep the shade was removed from his eye and he did not discover until half an hour after he woke up that it was no longer present although up to that time he said that the least light caused extreme discomfort and spasm of the eyelid After the third treatment he found that he could see almost as well with his left eye as before he was hit on the head. Meanwhile he was still unable to walk without crutches although the wound in the leg had completely healed, and there was no physical cause to account for this When he was hypnotised for the fourth time it was therefore suggested to him that he would be able to walk quite well, and he subsequently recovered entirely

These cases are typical of many others that have been treated similarly, in fact, fresh cases of this same condition are arriving every week and the "suggestion" treatment has not failed to give marked improvement in every instance Up to the present we have had no failures, although the patient in Case 5 has proved the most resistant, but his deafness and domestic trouble, together with the very unfortunate handling of the case in the early stages, have no doubt been responsible for this Mr Francis Brook very kindly undertook the later stages of his treatment for me (A W O), as owing to his greater experience in this work I thought he might obtain better results than I had effected In November the patient was given an anæsthetic, and suggestion was tried during the stage of semi consciousness with marked success as on the following day he opened his eyes voluntarily and has kept them open ever since His speech and his sight having now returned, we hope that his hearing will not be long delayed

Dr Hertz and I trust that by publishing these cases greater attention may be drawn to these conditions, so that even if treatment cannot be applied at once the cases may not be prejudiced unfavourably by injudicious handling

It is probable that the presence of sand grit, &c., in the conjunctival sacs of some of these patients may have been the cause of the "suggestion" of blindness but it was not present in all cases and recovery took place without its being removed as a matter of fact they were when present, all embedded in the conjunctiva and did not produce any irritative symptoms at the time the patients were under treatment

A NOTE ON WIDAL'S REACTION WITH STANDARDISED AGGLUTINABLE CULTURES,

TOGETHER WITH REMARKS ON THE IMPORTANCE OF METHOD IN RELATION TO AGGLUTINATION TESTS

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(*From the Department of Pathology, University of Oxford*)

IT will be generally agreed that at the present time, when large numbers of cases of febrile intestinal disorder are being admitted to military hospitals in this country and elsewhere, the routine use of reliable, accurate, and rapid methods of bacteriological diagnosis is a matter of more than usual importance Particularly is this the case in relation to the application of agglutination tests in the diagnosis of typhoid and the paratyphoid fevers

The Microscopic Method

During the last ten years there has been a gradual consensus of opinion among those who have studied the subject in the greatest detail that macroscopic methods of carrying out the Widal reaction are both simpler and more reliable than the microscopic method. Nevertheless, the microscopic method still appears to possess somewhat numerous adherents in this country as a routine procedure And the opinion has been again put forward quite lately by Tidy[1] that microscopic and macroscopic methods are equally reliable for diagnostic work This is perhaps true in the sense, but only in the sense, that any method will enable the observer to report that agglutination did or did not occur in particular dilutions of the patient's serum Doubtless, also, if agglutination has been obtained by the microscopic method in a sufficiently high dilution of the serum in an *uninoculated* individual a *positive* diagnosis may be given with reasonable certainty

But that the percentage of correct results, positive and negative, obtained by microscopic methods approaches anywhere near the degree of accuracy obtainable by the best macroscopic methods of performing the test cannot be substantiated by evidence Indeed so numerous are the irregularities and the pitfalls in the agglutination test as carried out under the microscope, and so greatly are its difficulties increased where *inoculated* individuals are concerned that the results are often practically valueless in diagnosis, and may even be entirely misleading

What are these difficulties and irregularities, and how do they arise? The position may be indicated broadly in the following manner Typhoid agglutinins for example, may be present in the blood in appreciable amounts for one of several reasons 1 The patient may have active typhoid fever 2 He may be convalescent from the active disease 3 He may have had typhoid fever in the past with persisting agglutinins 4 He may be a typhoid carrier with an agglutinating serum 5 He may be an inoculated individual Now any one of these conditions may be associated with pyrexia and undiagnosed intestinal disorder requiring the application of agglutination tests But in many cases the various conditions just enumerated are not distinguishable by Widal's reaction unless a method is used which allows one to determine whether, and if so how much, the titre of the patient's serum alters from day to day or at intervals of several days This, however, for reasons which will be explained immediately, is impossible by the microscopic method unless the changes in the titre are very great With appropriate modifications similar statements hold with reference to paratyphoid agglutinins

On the other hand, in cases and at stages when the titre of agglutination is low agglutination may not be detected by the microscopic method and the case returned as negative because the culture employed on that occasion happens to be one of relatively low sensitiveness to agglutination or the emulsion too dense When it is added that the precautions and controls against spontaneous agglutination may fail to be adequate in a proportion of cases abundant grounds are present to explain the conviction which at an earlier period in the war was being forced upon clinicians, and was expressed by Colonel Sir Bertrand Dawson[2] in quite definite terms to the effect that agglutination tests, *as performed, often failed* to afford reliable guidance in the diagnosis of typhoid and the paratyphoid fevers "owing to the failure of the Widal test due to inoculation" and to the fact that it was "eccentric," varied from positive to negative on successive days, and might be negative though typhoid bacilli were actually found in the blood Yet when carried out by accurate quantitative macroscopic methods agglutination offers far the simplest and most delicate test which we possess for the recognition of these particular infections

The reasons why the microscopic method entirely fails to give comparable quantitative measures of the titre of a patient's serum on successive occasions are the following

1 The bacterial emulsions or bouillon cultures employed are of an undetermined and inconstant bacterial content They possess no fixed and definite density, and are not twice alike Nor is it known to what extent they differ Yet it was shown long ago by Sacquépée[3] and is now familiar that the agglutinating power of one and the same serum will vary by *100 per cent* and more with the density or thinness of the emulsion used

2 Cultures vary very greatly in their degree of sensitiveness to agglutination so that different subcultures *derived from the same stock may differ* in sensitiveness to agglutination by *100 or 200 per cent*

3 As Bossaert[4] and others showed the precise age of the culture used affects in an important degree the sensitiveness of the culture to agglutination particularly in the case of bouillon cultures

4 Slight differences in the culture medium concerning the quality of the meat extract used in its preparation the precise chemical reaction of the finished product, the proportion of salts present and other factors may greatly affect the sensitiveness of the culture to agglutination

It follows that the microscopic method with fresh living cultures (the method cannot satisfactorily be made use of with killed cultures) is liable to variations of some hundreds per cent It cannot therefore indicate *with certainty* any changes in the agglutination titre of the patient's serum at successive examinations unless the changes are so very large as to fall outside the limits of these errors Within these limits such changes as appear to be indicated are as likely to be due to the inherent errors of the method as to any actual change in the titre of the serum while on the other hand the method may for the same reasons fail to reveal an alteration in agglutination titre even when a change of magnitude has taken place

Incidentally these facts explain how it is that while it has been clearly shown by quantitative macroscopic methods that in typhoid fever,[5] in inoculated persons,[6] and in inoculated experimental animals[7] the course of agglutination followed from day to day pursues a regular curve other observers using other methods find the trace composed only of a series of irregular jumps Of the fact that gross irregularities of this character are inherent in the microscopic method anyone may readily convince himself who will take the trouble to test one and the same known agglutinating serum by this procedure on a succession of different occasions

It is not intended for a moment to imply by what has here been said that the microscopic method will not in experienced hands give, earlier or later in the course of the disease, a correct answer, Yes or No, to the diagnostic question in a large proportion of straightforward cases, but will very often fail to afford the evidence required in the conditions of doubt laid down above

What is required in these cases is not a simple answer, Yes or No, but sufficient evidence on which to form a judgment whether the agglutination titre is rising, or falling, or maintains an approximately steady level during a period of observation Further the method used must be one which is not likely to fail whenever any special difficulty is encountered

The Macroscopic Method

The sedimentation method introduced by Almroth Wright[8] in 1897 constituted an important advance in the technique of the Widal reaction But Madsen[9] in 1902 was the first to devise a really accurate method of measuring the agglutinating power of immune serum It is not however always possible to make measurements by Madsen's method, nor is the method one so easily applicable in diagnostic work Madsen used bouillon cultures to which 1 5000 formol was added just before use During the succeeding years a number of observers advocated the use of cultures killed by formol and in various other ways for the performance of agglutination tests It is impossible in a short space to discuss in detail the various modifications of the macroscopic method But beyond question the best and most generally useful of these methods for accuracy, precision, simplicity and safety was that devised by Dreyer[10] published in 1906 after several years of careful trial and experimentation and made more generally known to English workers by translation in the *Journal of Pathology and Bacteriology* in 1909

In experimental work a long series of tubes is used in which the quantity of serum in each tube is approximately 80 per cent of that in the immediately preceding tube all the measurements being made by means of accurately calibrated pipettes For diagnostic work a short series of small tubes is used and the measurements are made with a dropping pipette Each tube is made to contain exactly the same quantity of killed agglutinable culture and exactly the same total volume of fluid

The accuracy of the method in the di[illegible] of enteric fever may [illegible] during the first two comp[illegible] the laboratory of the [illegible] (19[illegible] 1907) [illegible] 50 [illegible] was obtained in 99.1 per cent. of the cases which proved to be typhoid fever and a negative result was arrived at in 98.77 per cent. of the cases which proved not to be typhoid fever.[10]

As originally applied, two series of five tubes were used and the serum tested both against B. typhosus and B. paratyphosus (B). But present conditions are met by the use of three series of tubes in each stand, and the serum is tested simultaneously against B. typhosus and both the paratyphoid bacilli, as described in detail in the early part of this year.[6] A very thin emulsion of standardised opacity is used, thus getting rid of all the irregularities above referred to which are produced by the use of too dense emulsions and emulsions of varying and undetermined density. The reaction always proceeds in the same total quantity of fluid and in the presence of a constant quantum of bacteria. The killed agglutinable cultures are prepared from strains of bacteria specially selected and manipulated to ensure a high degree of sensitiveness to agglutination as well as to avoid spontaneous agglutination against which controls are put up with each agglutination test, though the phenomenon is practically never met with in the standardised cultures. Further, the degree of sensitiveness to agglutination—i.e., the agglutinability—of each batch of culture is accurately determined in terms of the original standard culture, and is expressed by means of a standardising factor.

The reading is taken by noting the highest dilution in which marked agglutination (without sedimentation) can be detected by the naked eye. This degree of agglutination is termed standard agglutination, and may very simply be expressed in standard agglutinin units by reference to the standardising factor of the particular standardised agglutinable culture employed.

Dreyer's method has now been tested for more than ten years, not only in experimental investigations but also in routine laboratory work and ordinary class teaching. It is not likely, therefore, that any important new difficulties will arise in its use in ordinary routine diagnostic work.

Since the early summer of this year standardised agglutinable cultures of B. typhosus, B. paratyphosus (A), and B. paratyphosus (B), and standard agglutinating serums for these micro-organisms have been made widely available by the Medical Research Committee on whose behalf they are issued (with directions for use and diagnostic data). Not the least benefit which will accrue from this action will be the collection from many parts of the world of an extensive material of exact and comparable data. For the individual worker the use of these preparations offers the following advantages:—

1. They are absolutely sterile and require no expert knowledge in handling.
2. They are always ready, there is no making of cultures in advance or preparing of emulsions.
3. The method is extremely simple, so that if need be an intelligent attendant can easily be taught to set up the tests.
4. The readings are quite clear and definite and quickly made.
5. The standardised agglutinable cultures are highly sensitive to agglutination and they can be kept unchanged for a year or longer.

The employment of an accurate quantitative method of carrying out agglutination tests possesses special value in the diagnosis of the presence or absence of active typhoid or paratyphoid infection in (typhoid) inoculated persons. If, and wherever, a mixed inoculation is brought into use it will become essential to use some such method in order to distinguish the persisting inoculation titre of the serum from the titre of active infection, since in inoculated individuals the agglutination curve of active infection is *superposed* on the agglutination curve of past inoculation. By the time infection takes place the latter will probably have reached a stage of decline in which it has become to all intents and purposes a level line in observations made at a few days' interval, so that in reality the agglutination curve of active infection starts in these cases from a raised base line. Recently, however, statements are reported to have been given currency by Tidy[1] to the effect that "febrile conditions apparently removed the agglutinins to bacillus typhosus from the blood", that "a positive Widal reaction was equally valuable in the case of the inoculated and the uninoculated", and that "after having disappeared the agglutinins perhaps return, but this is not usual." All this would naturally lead to the conclusion that if typhoid agglutinins be found in the blood during or subsequently to some still undiagnosed febrile affection their presence is to be attributed to active typhoid infection. This is not at all the case. But it is to be feared that if the view in question were to gain general acceptation a very large number of the typhoid inoculated individuals who developed a febrile disturbance would if examined be returned as cases of typhoid fever. Such a statement, therefore, justifies a definite contradiction. The effect of paratyphoid infection, for example, on the typhoid agglutinins of inoculated individuals, examined at such time as they are admitted to hospital, is either to leave the typhoid titre *unchanged*, or to produce a *rise* of greater or less degree.[6] And this agrees with what has been familiar in animals for a number of years.[7] Thus if an animal which has been immunised some weeks or a month or two before with *a particular* micro-organism be inoculated with a non-lethal dose of a vaccine prepared from some other micro-organism its agglutination titre for the first micro-organism exhibits a new rapid rise of greater or less extent and pursues a curve similar to the ordinary inoculation curve.

Immediately upon the second inoculation there may occur in a proportion of cases a moderate and purely temporary fall in titre, probably somewhat similar in character to the negative phase of the opsonic index, and passing off within a day or two to be followed by the rapid rise just mentioned. But if a longer period has elapsed (e.g., five months or more) before the heterologous inoculation is given there may be no change of any kind in the agglutination titre, though whenever any change at all does actually occur its main *feature* is a rise in titre.

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[10] See The Lancet, [illegible]

Bibliography.—1. Tidy: Brit. Med. Jour., Nov. 27th, 1915, p. 781; The Lancet, Nov. 27th, 1915, p. 1191. 2. Dawson, Sir Bertrand: The Lancet, March 27th, 1915, p. 662. 3. Sacquépée: Annales de l'Inst. Pasteur, 1901, vol. xv., p. 2[illegible]. 4. Bo[illegible]: Ibid., 1903, vol. xvii., p. 857. 5. Schroeder, K.: Thesis, Copenhagen, 1909. 6. Dreyer, Gibson and Walker: The Lancet, Feb. 13th, 1915, p. 324; Dreyer and Torrens: The Lancet, Dec. 1[illegible]th, 1915, p. 1355. 7. Dreyer and Walker: Journal of Pathology and Bacteriology, vol. xiv., 1910, p. 28. 8. Wright, Sir Almroth: Brit. Med. Jour., 1897, vol. i., p. 139. 9. Madsen and Jörgensen: Festskrift ved Indv. af Statens Seruminst., Copenhagen, 1902. 10. Dreyer, G.: Hospitals Tidende, Copenhagen, 190[illegible]. See also Brit. Med. Jour., 190[illegible], vol. ii., p. 5; Journal of Pathology and Bacteriology, 190[illegible], vol. xiii., p. 332; and Dreyer and Jex-Blake: [illegible]

AN OUTBREAK OF ANTHRAX CONVEYED BY INFECTED SHAVING BRUSHES

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THE following examples of anthrax in man are worthy of publication inasmuch as they seem to be the first recorded instances of such a means of contracting the disease Of the three cases that were definitely proved to be caused by the use of infected brushes, two—referred to later as the D—— and B—— cases respectively—survived the disease, whereas the other (the W—— P—— case) proved fatal As the fatal case was the one that suggested this mode of contracting anthrax, and also provided other features of interest during life, its details are here described at some length This paper, then, deals with (1) three cases of anthrax proved indubitably to have arisen after the use of a fully manufactured but still infected article, and (2) the bacteriology of (*a*) certain unused brushes manufactured at the same period, and (*b*) the materials used in their composition I do not deal with the means adopted to control the distribution of such brushes as could be traced to the infected consignments except to say that, on the facts becoming known, prompt action was taken to secure, so far as possible, their withdrawal

Clinical Notes of the W—— P—— Case

The patient was 32 years of age June 29th In the evening he noticed what he considered to be a boil coming on the front of his neck 30th He woke up to find considerable swelling of his neck His medical attendant noted a high temperature and much œdema of the neck but no "pustule" formation July 1st He was admitted to the West London Hospital

Condition on admission —There was a small yellow patch of subcuticular necrosis over the most prominent part of his thyroid cartilage in the middle line, with about half a dozen vesicles lying on its margin and extensive œdema limited above by the lower jaw spreading over the clavicle below, and fading gradually towards the middle line behind The mass was tender on manipulation and non crepitant Temperature, 99° F , pulse rate, 120

After a general anæsthetic at 7 P M the patient became conscious but remained profoundly collapsed throughout the night, sweating profusely and becoming gradually more cyanosed The temperature was subnormal, and the pulse-rate 150 and over Death occurred at 7 30 A M on July 2nd the total duration of illness being 60 hours No bacteriological examination was made during life

At the post-mortem examination held six and a half hours later it was seen that the œdema had made considerable headway extending from the lower face above to the xiphisternal notch below Laterally the outline of the neck was so deformed that the natural break between head and shoulders was almost obliterated giving from in front a frog like appearance Over the pomum there was a surgical wound half an inch long and one-eighth of an inch broad Dissection at this spot showed very little if any destruction of tissue apart from the surgical incision Preliminary punctures withdrew yellow slightly turbid odourless fluid from the front of the neck and a similar but sanious exudate from the parts affected by hypostasis Hangdrop and smear preparations made from this fluid showed few leucocytes but numerous large non sporing non motile encapsulated bacilli The same bacillus was subsequently seen to occur in great numbers in smears from the blood spleen kidneys lungs and exudates The other appearances noted were an œdematous infiltration of the anterior middle and posterior mediastina with a large serous collection in the left pleural sac hypostatic congestion of the lungs, staining of the endocardium and the intimal lining of the vessels dark and mainly fluid blood , heart muscle atonic , peculiar dry, ground glass appearance of the peritoneum, with collapse of the g[illegible] injection of the stomach and intestine with scattered small hæmorrhagic erosions and a little altered blood in the former , a small but dark coloured spleen (6 [illegible]) and no obvious enlargement of the glands The brain was not examined Positive cultures possessing the cultural and biological characteristics of B anthracis were obtained from the spleen, lungs liver, stomach, and upper intestine, and œdema fluid from the neck mediastinum and pleura, but not from the bronchial mucus There was no urine to examine Control anaerobic cultures from the neck blood, and spleen showed no bacterial growth It was concluded that the bacillus had entered the blood stream through the skin of the neck, as no appearance of a primary lesion in the intestines or the lungs could be discovered

Clinically this was an example of so called "erysipelatoid" anthrax, which is characterised by the insignificance or deferred appearance of "pustule" formation, rapidly spreading œdema and a high mortality It is usually seen in the neck or eyelids where the tissue is loose and cellular In such tissue there is probably little power of resistance to invasion and no barrier formed to prevent early bacteriæmia However the œdematous infiltration may be marked without death ensuing There is an example recorded in the Annual Report of the Chief Inspector of Factories for 1908 in which a flesher, who had extensive œdema of the face, upper extremities, trunk, and right thigh recovered after the use of 90 c c of Sclavo s serum in 20 c c doses [1]

An early diagnosis was rendered difficult partly on account of the type assumed by a disease which is rarely seen in most London hospitals but chiefly because the man s occupation was one of the last to suggest anthrax The odds were as much against his having a cellulitis of the neck due to B anthracis as they would have been in favour of this had he been a brushmaker or hide salter

Having proved the identity of the bacillus by culture and inoculation, the point of immediate interest to decide was in what manner infection came about With this object in view, and bearing in mind the protean nature of anthrax purveyance some of the patient s relatives were rigorously questioned, but with so little success at first that it seemed that this case would have to be relegated to the unsatisfactory group of unproven etiology were it not for an observation made at the post mortem examination At that examination it was noted that the small local lesion came well within this individual s shaving area which covered a larger ground than usual This suggested the idea that a new shaving brush might have laid a charge which the subsequent passage of a razor exploded This was thought of not so much because the lesion was on the neck—a site very commonly infected in workers in all the scheduled industries—but because it occurred in the shaving area and moreover, in a part supported by the hard thyroid cartilage, where the attrition of the brush might deposit most spores and the razor edge could easily wound The relatives of the patient were therefore asked to follow up this clue with the result that another member of the family the actual purchaser and donor of the shaving brush stated that her son had certainly used the brush she had bought during the fortnight it had been in his possession but only a few times as he had not altogether discarded his old one

At the subsequent inquest a verdict was brought in that death was due to anthracæmia possibly contracted from shaving with an infected brush At this inquiry expert veterinary opinion was opposed to this provisional suggestion. It was held that vegetable fibre rather than animal was usually employed in the making of these cheaper brushes, and that infection from them was therefore improbable But the three facts—viz , the site of the lesion, the use of a new shaving brush, and the absence of any other discoverable source of infection, together with the one possibility, viz , that the fibre used in that new brush might be of animal origin and infected—were sufficient to suggest a working hypothesis which later investigation proved conclusively The idea was considered chimerical in certain quarters, probably because it was without actual precedent In others it seems to have caused annoyance, and it must be confessed that the supposition was put forward with a reserve that would not have been present if the brush had been examined before the inquest

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[1] In the W—— P—— case [illegible]

About a week later the brush was available for examination Fortunately it had not been washed after the last time of shaving, an important accident as will be seen later It was of poor quality (wholesale price 6*d*) The fibre used was animal with a small leaven of vegetable The former moiety appeared to be made up of hair of various kinds, some being artificially dyed to resemble badger After comparison with known samples, it was concluded that pig bristles, horse hair, and possibly cow tail were present, but owing to lack of experience in this intricate differentiation an exact classification could not be formulated The main point, however, was that animal hair was present in abundance, which showed that the assertion made at the inquest that cheap brushes were mostly composed of vegetable fibre did not apply to this sample The other constituents were the bone handle and the cementing substance, the latter of which might or might not have been of animal origin In the bacteriological examination the bone, the cement substance, and the hair were treated separately Several fragments of cement material obtained as far away as possible from the hair and scrapings from the surface of the bone handle were proved to be free from B anthracis by cultural methods, and for the moment no more time was spent over their examination

As regards the examination of the hair a rather ambitious and perhaps over cautious programme was arranged It was thought that if a wash made from all of them was inoculated into an animal death might ensue from some infection that would mask anthrax It was also thought that the infection might be limited to one variety of hair in particular Therefore about a third of the fibre was removed from the handle This freed portion, after a prolonged scrutiny, was divided up according to the varieties of hair it was thought were present—i e , those elements considered to have been derived from pig horse or cow were separated into groups and the unrecognised remainder treated as a separate batch These hairs as arranged, were then examined (*a*) singly by heating in broth at 80 C for 30 seconds and laying in parallel rows on surface agar and (*b*) in groups by washing in broth and plating the centrifuged deposit after heating Inoculation direct from the washings was not performed in these preliminary experiments which were fruitless only one organism being found on the plates which appeared to merit a trial by injection Rather a long time was wasted over these endeavours to allocate the spores to particular hairs and in the light of present knowledge the attempts were not worth the labour involved, as the original classification of the hairs was probably inaccurate Moreover, the fact that the brush had already been wetted during shaving with the likelihood of a universal distribution of the spores was at that time overlooked But mention is made of the work, as the time spent on it caused delay in the successful attainment of the object aimed at

Later the rest of the brush was "lathered" in a stone mortar in imitation of the ordinary process occurring in shaving with 20 to 25 c c of sterile broth rendered definitely alkaline to phenol phthalein with 5 per cent sodium hydrate The collected washings, after heating at 80° C for 15 minutes, were divided into three portions One of these was stored for further work if necessary The second was centrifuged and the deposit collected in 1 c c of the supernatant broth. This was thoroughly shaken and distributed in decreasing amounts through three agar plates Among the many colonies which occurred on these plates three proved to be B anthracis on subculture and inoculation The deposit from the remaining third was injected into a young rabbit weighing 1000 grammes This animal died three days later from typical anthrax, but in order to be correct academically the organism grown from the animal s blood was subcultured and inoculated into a guinea pig with similar results

It could now be definitely stated that the shaving brush was infected with anthrax This infection was probably due to disease in the animals from which the hair used in their manufacture was originally obtained It might however, be urged that it was brought about by contact with an abraded anthrax lesion This point could only be settled by an examination of unused brushes These brushes, five in number, together with the one bought and used by the patient in the W—— P—— case, comprised a lot of six from the same manufacturer exposed for sale in a druggist's shop They were dealt with in the same way as the original brush—i.e , by "lathering" in alkaline broth and treating the washes in the manner already described These washings were invariably very dirty Great care was exercised in rinsing and sterilising each mortar before treating another brush, as it was thought that otherwise infection might easily be carried through a series of brushes In the plates importance was only attached to the deep colonies, as described by Professor Eurich in the *Journal of Pathology and Bacteriology* vol xvi , 1912

Results Obtained from the Examination of Brushes

Brushes	Result of inoculation into guinea pig	Growth on agar plates
No 1[*]	B anthracis	A few colonies of B anthracis
2	Negative	—
3[†]	B anthracis also B perfringens	Many colonies
4	B anthracis also B malignant oedema.	Many colonies
5	B anthracis	Not done.
6	B anthracis	A few colonies
1a	B anthracis also B perfringens.	Many colonies
2a	B anthracis	Not done
3a	B anthracis also B perfringens.	Many colonies

[*] Original brush

[†] After the first inoculation a further attempt to find the spores of B anthracis in the wash from this brush was not made

The foregoing list of results obtained from the examination of two batches of brushes—the first six being those obtained from the druggist s shop—shows the widespread distribution of the spores and how gross the infection was on certain of the brushes Plates were not made from all the deposits on account of pressure of work

The animals inoculated survived periods varying from 30 hours to 5 days Those that died soon—viz, those inoculated from Brushes 3 and 4 and 1 A and 3 A—did not show the characteristic post mortem appearances of anthrax, but there was no difficulty in obtaining the bacillus by culture from the blood and spleen It was also noted that one of the dust organisms occurring on the plates occasionally contaminated B anthracis in cultures from the blood and spleen, but this organism did not seem to be pathogenic when inoculated by itself

After the above series was completed, a brush from the same manufacturer, which had been used in the D—— case by a man who had contracted facial anthrax, was tested It was found on arrival to have been well cleansed, judging by the complete absence of residual soapsuds and particles of beard, much of which still adhered to the brush from the original case The bacillus was not obtained from the free portions of hair even after repeated trial This failure may have been due to the fact that all spores had been removed during shaving and when the brush was washed after shaving To strengthen the supposition that thorough washing would free these brushes from infection, the following tests were applied —

1 Brushes 3 and 4 and 1 A and 3 A from the above batch were well rinsed in warm water from a running tap They were then dried and treated in the same way as in their first examination The centrifuged deposits obtained from the second washes were combined and inoculated into one guinea pig with negative results Plates were also made and they showed a very great diminution in the total number of organisms

2 Some of the "goat hair" mentioned hereafter, was well washed in hot soap and water, and then rinsed in hot running water After this procedure the deposits obtained from a further washing in a small quantity of alkaline broth failed to infect after inoculation It might be added that though the washing of hair fixed to a handle did no damage to that hair but apparently freed it from a potential danger, the same process applied to untethered hair resulted in such inextricable confusion that it became useless for brush making Moreover, the spores were not destroyed but only displaced by this method

The brush from the D—— case was at last proved to be infected when the ends of the hair imprisoned in the handle were examined After freeing them from the cement substance, as much care as possible being used, it was noted that they were markedly damaged by heat However the animal inoculated with the greater part (three quarters) of the deposit from their washings after heating at 80 C for ten minutes died eight days later from anthrax On the other hand a plate made from the remaining quarter of the deposit did not show a single organism of any kind

The next material to be examined were samples of Chinese goat hair and hog bristles, which were said to have been mixed and used in the composition of these brushes A sample of dust from the wooden bin in which the bundles of goat hair were stored was also collected at the same time Of these, the hog bristles were well bleac and clean in appearance Anthrax spores w neither found in them nor in the dust—alt negligible in amount—that had been scraped f the bin The "goat hair was dirty and washi from it gave a muddy deposit

A variety of animals seem to have contribut share in the constitution of these bundles of hair " Occasionally vegetable fibres were found

Plates made from the washings and gr aerobically teemed with colonies about half which were those of B anthracis The ani inoculated died in 30 hours from emphysemat gangrene caused by a very mixed infection, cultures from the spleen and blood gave n anthrax colonies Before these were secure piece of the agar plate containing two colonie anthrax was broken up and injected into a sec pig, which succumbed in three days and show anthrax only It is remarkable that no cases anthrax occurred amongst the hands employe the factory

With a view to an explanation of the occurre of so large a number of spores in the mater worked with, tests were now done to detect presence of blood and protein on these hairs and the washings obtained from them But neit was found in amounts sufficient to assume soil with animal tissues or discharges The benzi test gave an indefinite reaction, which was not c firmed by the other "occult blood tests Pro bodies could also be considered absent from practical point of view

The following observation, though very insu ciently worked out, may be mentioned as throw perhaps a little light on hair infection

About 30 pediculi found in a guinea pig de from anthrax were planted out on to the surf of agar plates, without any preliminary heating destroy other organisms Two gave rise to colon of anthrax, which appeared first about the m regions of the pediculi (Of these two colonies o was confirmed by inoculation and the ot identified by culture only) But one or t attempts to prove that hairs cut off from part the same guinea pig well away from the extern orifices were infected were made without succe

The finding of the two anthrax carriers mig have been due to good fortune, and many mo parasites might have been examined without di covering further infection If allowance is ma for the greater size of the parasites preying o larger animals the greater is the possibilit of hairs of these animals becoming infected by t excretions of such parasites

These and other experiments with the flies livi in the animal room were not pursued fur owing to exigency of time and the change season It is probable that animal inoculati would be a better means of detecting infection such insects than a plating out method which alone used in the few experiments carried out

The last two brushes to be investigated w associated with a case that occurred in I—— T patient was a young adult aged 20 who devel a malignant pustule on the back of the nec T two brushes were even of a commoner kind t the ones previously spoken of The whole price was 3d This youth had bought h about six weeks before his illness but hi suggests that he did not have to use it of the time The second brush was ob as a control from the store which the been bought It was of the same pattern The results of the examination were as follows —

Brush	—	Guinea pig	Plates
No 1	Used	B anthracis Guinea pig died on sixth day	Not made
No 2	Unused	Died from emphysematous gangrene	Not made

These results were not in accordance with anticipation It was thought that as the lesion was on the back of the neck the shaving brush would probably be found blameless So it must be concluded that infection was caused by the fingers or a face cloth, either of which might readily become infected

Interest attaches to the result obtained by another bacteriologist, which showed the presence of anthrax infection in a sample of the material said to have been used in the manufacture of the brush in question

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THE DIAGNOSIS OF SO-CALLED PRIMARY TUBERCULOUS MENINGITIS

RETENTION OF URINE IN THE ADULT MALE, WITHOUT ANY APPARENT CAUSE, AS A NEW PATHOGNOMONIC SIGN[1]

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SURGEON (TEMPORARY) ROYAL NAVY

TUBERCULOUS meningitis in a child is a disease which can generally be easily diagnosed, but in the adult, unless there is distinct evidence of tuberculous disease elsewhere, it is very difficult and in many cases impossible, to do so Comparatively recently I have come across four cases of this disease in the adult (male) in which there was retention of urine without any apparent cause, and I have in consequence come to look upon it as a pathognomonic sign The act of urination is a voluntary one, a sensory stimulus is sent from the bladder to the brain, which is possibly a sensation of distension of the bladder The response to this is a voluntary act—contraction of the abdominal muscles This presses a few drops of urine into the sensory neck of the bladder which gives rise to the spinal reflex which produces contraction of the bladder walls with inhibition of the sphincter at the neck of the bladder, and so urination In the cases I have written on there was no paralysis of the abdominal muscles and no pain or desire to micturate Evidently sensation was absent, but why I cannot explain

CASE 1 —Male aged 20 years shop assistant Had not been feeling fit for some time Fairly well nourished Complained of headache No sickness Temperature 101° F Pulse rapid, tongue dry no cough No cyanosis flushed appearance Respirations normal Bowels constipated Heart both sounds present, no adventitious sounds Lungs normal No enlargement of spleen or liver Urine specific gravity 1020 amber coloured acid, no albumin or sugar Bowels moved by enema yellowish no blood During the next five days temperature was irregular being normal in the morning and varying in the evening from 101° to 102·6° On the morning of the sixth day he told me he had not passed urine since the day before The bladder was distended I passed a rubber Jacques catheter quite easily Urine tested again normal No paralysis of abdominal muscles I could not come to a [illegible] opinion [illegible] still no diagnosis [illegible] became irregular and slow Respirations more frequent Pupils dilated and irregular Gradually sank into a semi conscious condition Coma developed later and he died on the tenth day Towards the end the temperature became normal I had to draw off urine every day until he died

Necropsy —A post-mortem examination was performed (at which a pathologist was present) Brain Matting together of the membranes, effusion of lymph, which was opaque, round base of the brain, especially round the optic chiasma and in Sylvian fissures, several whitish nodules on various parts of the brain, very few and very difficult to find There were no tubercles mixed with lymph Miliary tubercles were found in various organs liver kidneys, &c Otherwise all the organs normal The prostate was not enlarged Death was due to tuberculous meningitis secondary to acute miliary tuberculosis

What struck me most about this case was that the patient was unable to pass urine He had no pain although the bladder was distended and he had no desire to pass urine There was no stricture or enlarged prostate He simply mentioned the fact that he had not urinated, as it struck him as being "rather funny" Evidently sensation was quite absent and there was no paralysis of abdominal muscles

CASE 2 —A male, labourer aged 35 years, who had been to all accounts, in good health previously, was suddenly taken ill one evening I saw him the next morning, he was then in a comatose condition Very cyanosed, temperature normal, tongue dry Pupils widely dilated and irregular Pulse slow feeble, and irregular Heart, both sounds present, no adventitious sounds Lungs normal Liver and spleen not enlarged Bladder dull note nearly up to umbilicus, passed Jacques rubber catheter quite easily The urine was of specific gravity 1015, cloudy, acid no albumin or sugar Typical Cheyne Stokes breathing Incontinence of fæces He died the same evening The temperature was still normal

Necropsy —At the post-mortem examination there was matting together of membranes of the brain and a large quantity of turbid lymph mixed with tubercle at the base surrounding the nerves and extending into the Sylvian fissure There was a large patch on the anterior portion of the convex surface of the cerebrum The ventricles were full of fluid, other organs in the body were normal The prostate was not enlarged Death was due to tuberculous meningitis I could not find any primary cause although there was probably a caseous gland somewhere When I discovered that the bladder was full I at once thought of Case 1 and that this also might be another case of so-called primary tuberculous meningitis, and so it proved

CASE 3 —The patient a male aged 31 years whom I saw in the evening had been "seedy" for some time and was now in a drowsy condition He understood what I said to him but before I could get a reply to my question he would relapse into the same drowsy state The temperature was normal and the pulse slow feeble, and irregular The patient's mouth was full of blood evidently from biting his tongue, nothing in the throat, very cyanosed, dyspnœa Both heart sounds were present, no murmurs The lungs were normal there was slight cough but no sputum Liver and spleen dullness normal The bladder was distended, a Jacques rubber catheter passed easily Urine Specific gravity 1010 cloudy alkaline no albumin or sugar There was a large quantity of earthy phosphates which probably accounted for the alkalinity No paralysis of the abdominal muscles The patient being constipated an enema was given, the stools were quite black probably due to blood swallowed Kernig's sign was present also tache cérébrale He rapidly became worse, the respirations increased and the pupils were widely dilated and irregular He sank into a deep coma and died the following evening

Necropsy —At the post mortem examination the brain showed all signs of tuberculous meningitis Both kidneys were cystic and weighed 2¼ and 2¾ oz respectively The prostate was not enlarged other organs normal I could not find any primary cause but I did no search very minutely After the experience of the first two cases the moment I found the bladder full I felt perfectly certain in my own mind as to the diagnosis and what I should find post mortem, and the result proved my expectation to be correct

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[1] [illegible] Moral [illegible] General P[illegible]

The following case tends to confirm the observations recorded in the first three cases —

CASE 4 —The patient was a male aged 47 years When I first saw him he was in a very weak condition suffering from advanced tuberculous disease of both lungs The pulse was irregular and slow He was very cyanosed and was constipated On the third morning the nurse informed me that he had not passed urine The bladder was distended, I passed a Jacques rubber catheter quite easily The urine was high coloured, of specific gravity 1025, acid, with no albumin or sugar There was no paralysis of the abdominal muscles and no enlarged prostate Kernig's sign was present, also tache cérébrale That evening he had a more or less typical Jacksonian fit These fits continued with intervals until he died the following evening Respirations increased, temperature normal every morning The first day I saw him his evening temperature was 99° F On the following evening it was 99 2°, on the next evening 100° and on the night on which he died 103 6° His death was due to tuberculous meningitis, secondary to tuberculous disease of the lungs

Necropsy —I only examined the brain and found the usual tuberculous signs which one would expect

Case 4 is especially interesting, as there was ample evidence of tuberculous disease elsewhere, and therefore no doubt about the diagnosis The retention of urine was present without any cause, and the patient himself did not mention the fact that he had not urinated and seemed to have no pain or discomfort in consequence The diagnosis can nearly always be clinched by lumbar puncture, but this is a procedure which is often inadvisable or inexpedient

The laity always want to know what is wrong with the patient, but they do not always appreciate the difficulties that beset the physician s path I hope, therefore, that this sign of retention of urine, which, I think one is justified in calling "pathognomonic," will help in forming a diagnosis in those difficult cases of so called primary tuberculous meningitis I have searched the literature on the subject, but I have not read of this sign being quoted before It would be interesting to hear what the leading physicians have to say

A FATAL CASE OF "DOPE POISONING"

BY W E LEE, M D LOND, F R C S ENG

CASES of "dope poisoning" are so recent in origin and so few in number that it is desirable to make the record of each one as complete as possible The one here recorded is the fifth fatal case, and occurred at a large aeroplane works at Kingston

The patient a male aged 60, a "tapist,' went to Mr Isaac Coalbank, of Teddington on Nov 19th 1915 complaining of diarrhœa vomiting, and weakness which was so great that he could hardly walk a distance of less than half a mile to the surgery He was sent to bed and stayed there until his death on Dec 2nd The diarrhœa continued the vomiting altered in character becoming less frequent and a very much larger amount coming up at each time Jaundice came on three days later—i e on Nov 22nd—it became more intense and continued throughout the illness Petechial hæmorrhages appeared and increased in number until the body was covered almost as with a measles rash He became somnolent and this deepened into coma in which he died

Necropsy —A post mortem examination was made on Dec 3rd by Mr L A Clarke of Teddington at which Dr T M Legge of the Home Office Mr Coalbank Mr H Davidson Dr E G Gibbs-Smith medical officer of health of the district and myself were present Externally the body was well nourished with ample subcutaneous fat There was general jaundice of moderate intensity slightly paler on the legs than elsewhere On opening the abdomen the liver was not seen until the overlying stomach and intestine had been lifted up There was a large amount of free bile stained fluid The gall bladder was large, had many adhesions round it but contained no gall stones and none were found in the ducts The liver weighed 39 oz, its surface was wrinkled and it lost its shape when laid on the table The capsule was obviously too large for the contents The right lobe was almost normal in size and the left very small The right lobe was stained a bluish green colour, quite unlike that seen in post-mortem decomposition The left lobe was bright yellow On section very little blood escaped It was hard to cut firm to the touch, and the lobules very prominent The kidneys were large the capsule stripped readily the cortex was very narrow, and the pyramids were swollen The spleen was shrunken, congested, and friable The heart weighed 15 oz, the whole endocardium was smooth, deeply stained a dark red tint in uneven patches The heart muscle was similarly stained for a quarter of an inch below the endocardium and friable The stomach and intestines were normal The lungs showed some emphysema The aorta was stained in a similar way to the heart

Past history —The patient had been in the Royal Navy for many years, taking part in the West African and other expeditions He had then been a painter until Oct 23rd, 1915 when he started work in an aeroplane factory

The following points are of interest The taping room where the man worked is not regarded as being so dangerous as the painting room, where the whole fabric is painted with 'dope' in six coats, 24 hours being allowed to elapse between each coating Taping is putting on strips of fabric 2 inches wide over the fabric seams after dipping them in "dope" There is a good deal of vapour in the taping room, but not so much as in the painting room

The composition of the "dope" is important, it consists of acetate of cellulose or celluloid dissolved in tetrachlorethane, with amyl alcohol and benzene

The treatment of the case was tartrates, citrates and alkalies, with saline injections, plenty of water to drink, and stomach lavage

"Dope poisoning" is a new disease The first case occurred in November, 1914 and there have been three other fatal cases besides the one reported here A very full account of the first outbreak was published in THE LANCET of March 13th 1915, by Dr W H Willcox with an account of the microscopical appearance of the tissues The small size of the left lobe of the liver has been noted in other cases and seems to be characteristic of the disease An outbreak occurred in February, when several girls were the subjects, fortunately they all recovered The first fatal case was in a male the next three in women, and the one now recorded in a male The average age of the fatal cases is much greater than the average age of the cases which have recovered The disease is now a notifiable industrial disease under the Disease Section of the Workmen's Compensation Act

An action was brought by the widow of the first victim claiming that her husband had died as the result of an accident This was decided against her and the Aircraft Company paid her a sum of £150 on condition that she did not appeal against the decision

In conclusion I have to express my hearty thanks to Mr Coalbank for his kindness in supplying me with the clinical history of the case and allowing me to publish it

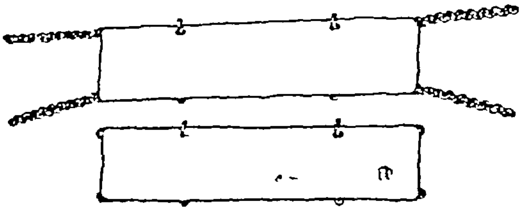
[illegible] E C

AN INTERRUPTED HAMMOCK-BED IN THE TREATMENT OF COMPOUND FRACTURES OF THE HIP AND THIGH

BY C W G BRYAN, F R C S ENG,
SURGICAL REGISTRAR ST MARY'S HOSPITAL, LONDON TEMPORARY CAPTAIN ROYAL ARMY MEDICAL CORPS

IN the treatment of septic gunshot wounds, especially where bones and joints are involved, it is recognised that two principles are of the greatest importance—namely, frequent change of dressings and immobilisation Immobilisation is necessary, not only to avoid pain and consequent exhaustion, but also to prevent auto inoculation from disturbance of the septic area Unfortunately, the more often a wound is dressed the more it is apt to be disturbed

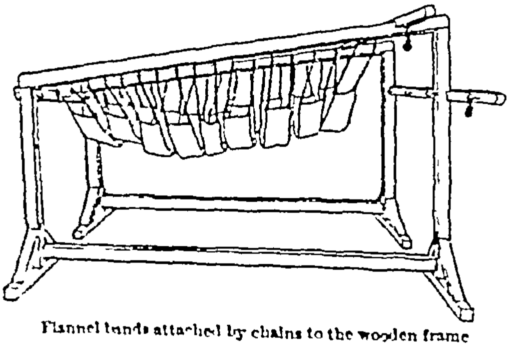
FIG 1



Four fold flannel bands with rings at the corners and hooks and eyes at the sides.

For the treatment of compound fractures of the upper extremity much ingenuity in devising splints has been displayed successfully, and forms of apparatus are available to enable nearly every type of wound to be dressed without disturbance In the lower limb, however, dressing without altering the position of the patient or his fracture may be a matter of very great difficulty, and especially is this the case when the hip joint or the upper end of one or both femurs is injured In these cases also there is usually a wound situated posteriorly, whether due to the projectile or to an operation for counter drainage

FIG 2



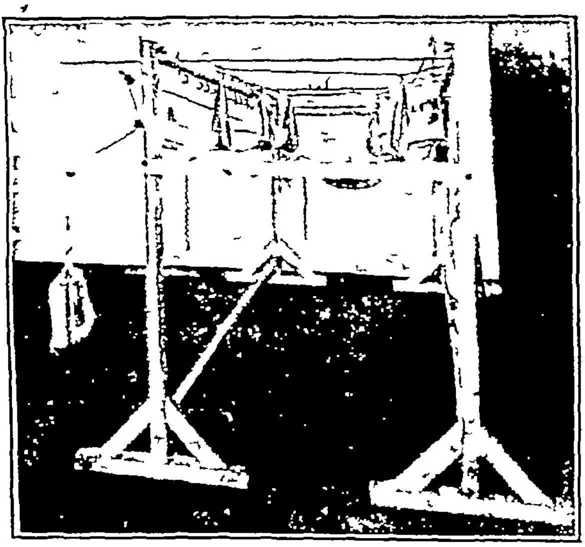
Flannel bands attached by chains to the wooden frame

Again the care of the patient s back, a particularly serious matter in these cases owing to wasting and the profuse discharge from the wound, and the other necessary manipulations of nursing lead to frequent disturbance of the patient In many cases he can lift his own body off the bed by pulling with his arms but this leads to an objectionable waste of strength when he is weak and toxæmic

Recently having to treat two patients with severely septic compound fractures of the femur involving the hip joint one of the wounds in each case being very large and placed posteriorly, I was led to devise a simple interrupted hammock bed in which the patient can lie practically undisturbed while all the processes of dressing and nursing are carried on

The bed is made with two ordinary Balkan splints which are united by three transverse cross pieces of wood so that their inner borders are 36 inches apart One cross piece is screwed to the head end vertical bars of the splints 40 inches from the ground, the second one is bolted to the foot end vertical bars of the splints, also 40 inches from the ground, and the third cross piece is bolted to the two overhead bars of the splints 12 inches from their foot ends The second and third transverse bars are prolonged beyond the Balkan splint on one side for 18 inches, so that full abduction by weight extension, which is usually necessary for fractures in the neighbourhood of the hip, can be obtained The fact that these bars are attached by bolts enables them to be reversed when necessary To the under aspect of the upper bars of the Balkan splints strong hooks are screwed at intervals of 4 inches To each of these hooks a piece of chain 10 inches long is attached

FIG 3



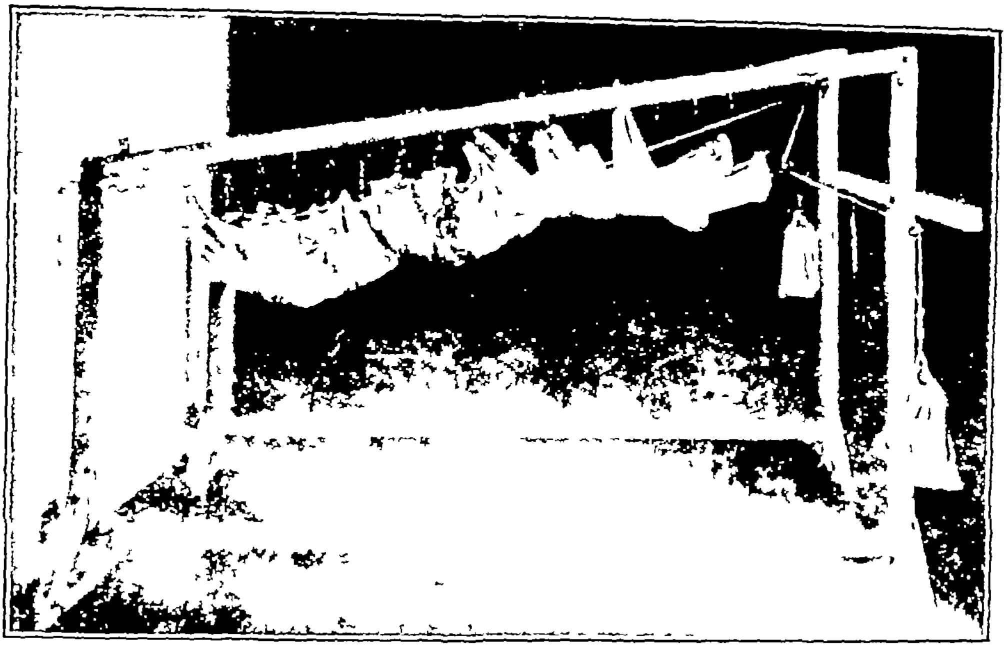
End view of bed in use by a patient with septic compound fracture of neck of right femur suppurative arthritis of right hip and septic compound fracture of shaft of left femur

The bed on which the patient lies consists of transverse bands of flannel Each band is made of four thicknesses of flannel, 36 inches long and 8 inches wide, and has sewn in each corner a small curtain ring, while to each edge, 9 inches from the end, large hooks and eyes are sewn (Fig 1)

Each corner of the flannel bands is hooked to the end of one of the chains mentioned above, and each band is attached to its neighbours by the hooks and eyes When the patient is in the bed the bands are adjusted so as to distribute his weight evenly by hooking the chains to the Balkan splints at a convenient link In some cases it is desirable to make the bands which are in contact with the dressings of rubber sheeting instead of flannel (Fig 2)

To immobilise the fractured limb I use two stirrups of strapping, one attached to the thigh, the other to the leg From the upper stirrup a cord

FIG. 4



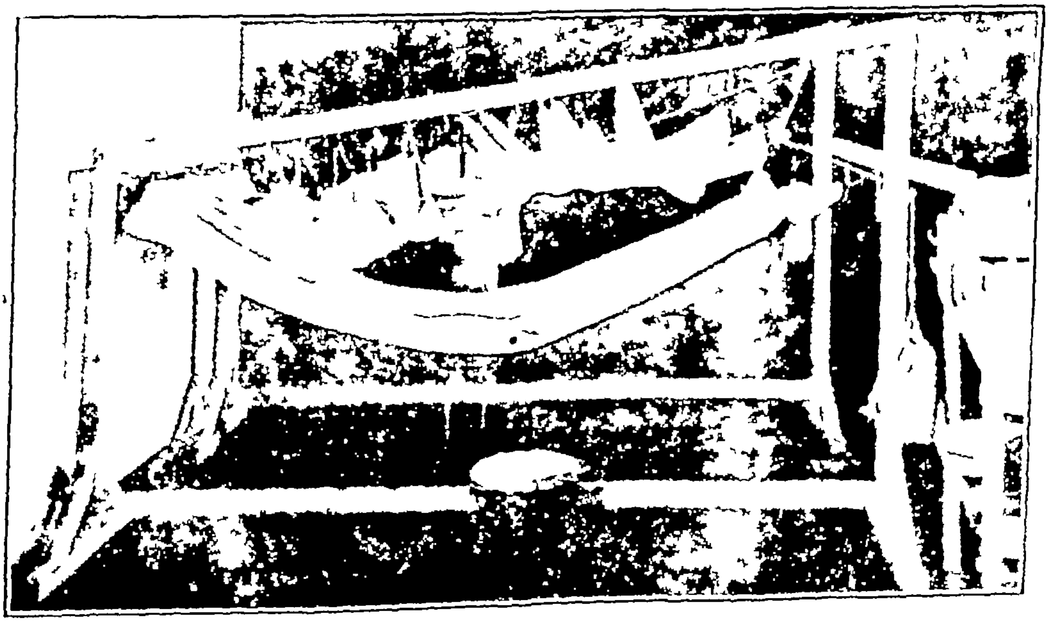
Side view showing abduction extension cord and pulleys attached to projecting limbs of cross bar.

is carried first through a pulley hooked on the upper abduction bar, then through a second pulley fixed to the lower stirrup, and finally through a pulley hooked to the lower abduction bar, ending in a weight which is usually 2 or 4 pounds. As a convenient and easily obtainable weight I make use of one or more ordinary bricks, which weigh about 2 pounds each; every brick is enclosed in a bag, which is hooked by a metal S to a loop at the end of the cord. (Figs. 3 and 4.)

To keep the back of the patient warm a blanket is doubled lengthwise and has strong hooks sewn at the corners, at the middle of each end, and at intervals of 12 inches at the sides. This blanket is attached by its ends to three hooks screwed into the transverse bars at the head and foot of the bed, and its sides are hooked to the side chains to keep it in contact with the patient's body. As many more blankets as are necessary are folded and placed on the top of the first one, six layers sufficing as a rule.

When the wound is dressed the sides of the blanket are unhooked and its lower end is detached and hooked to 9 inch lengths of chain passing

FIG. 5



[illegible] self-draining [illegible]

from it to the hooks on the lower cross bar, thus increasing its length (Fig 5), it now lies suspended several inches below the patient and is used to support a sterile towel, kidney dish, &c Whichever transverse band lies behind the wound is then unhooked from the frame and from its neighbours, so as to expose the dressing In this way the dressing is carried out easily with an extremely slight amount of disturbance of the patient Similar manœuvres are necessary for nursing purposes, the lowered blanket being used to support nursing utensils

Where a continuous irrigation is being used it can easily be adjusted by slitting one transverse band longitudinally for half its length, so as to expose the posterior wound or wounds

An advantage of the hammock bed consists in the fact that the whole frame can be moved without any disturbance of the patient, moving the bed of a patient whose limb is slung from a Balkan splint in the ordinary way is a laborious and painful process Any tendency for the patient to slip towards the foot of the bed is overcome by lowering his shoulders and raising his pelvis, the length of the chains being adjusted at suitable places

The hammock bed which I have described is cheap, taking the place of an ordinary bedstead and rendering mattress, water bed, and air pillow unnecessary It also economises time and labour, as nursing and dressing can be carried out more speedily and with less help than is usual with the forms of bed and splint ordinarily employed

I wish to express my thanks to Lieutenant C H Hopwood, R A M C, for the photographs with which this description is illustrated, and to the nursing sisters who have given me much valuable help

British Expeditionary Force France

Medical Societies

ROYAL SOCIETY OF MEDICINE

Treatment of Dysentery

A MEETING of this society was held on Dec 20th, 1915, Dr FREDERICK TAYLOR the President being in the chair

The PRESIDENT in introducing Sir Ronald Ross, said that dysentery was a disease which had done almost as much damage as anything in this war Happily, as he understood there had not been very many cases of it in France and the northern area of fighting generally, but at the Dardanelles and in other parts of Europe, as well as in parts of Asia there had been a great deal of the disease Sir Ronald Ross, who had been in Alexandria and had seen a great deal of the disease did not undertake to lay down the law on the subject but hoped to hear criticisms and views from those who had been engaged in treating cases of the disease which had been brought home to this country

Sir RONALD ROSS then delivered a lecture on the Treatment of Dysentery which appears at length on another page

Dr C M WENYON said that for the past two months he had been engaged in examining patients returned from the Gallipoli region by reason of having suffered from dysentery, and he had made 1500 examinations in 500 cases Many of the cases had already been treated with emetine in Gallipoli He found that from 60 to 70 per cent of the returned men had had some kind of protozoal infection and it was very important to decide what form they were suffering from as this was a necessary guide to successful treatment He referred to his recent contributions to THE LANCET[1] on the subject The commonest protozoal infection found in these men was that of the entamœba coli which he believed to be a perfectly harmless parasite The cause of amœbic dysentery was the entamœba histolytica 50 per cent of the cases he saw were those of entamœba coli, while 10 per cent of the cases were harbouring the histolytica, and hence must be regarded as dysentery carriers, they were dangerous to themselves and those with whom they came into contact The actual amœba could not always be found in the stools, but careful search revealed the encysted forms The importance of the latter was not recognised by all, it was believed that in order to establish the diagnosis the free live organisms must be demonstrated The finding of the encysted entamœba was as clear a proof of dysentery as the finding of ankylostoma eggs was evidence of the existence of ankylostomiasis After a four years' study of protozoa which inhabit the human intestine he was able to say that entamœba coli always ran a true course—there was no transmutation, and a person might carry for years without manifesting dysenteric symptoms the amœba of dysentery He had injected it from such people into cats and produced in the latter the typical disease He had also by transferring it from animal to animal, caused dysenteric abscess of the liver Cases had already occurred in people who had never been out of this country He had seen a man recently who was working at the London docks The patient developed liver abscesses and died from the disease, and the necropsy showed the typical cysts of entamœba histolytica The ulcers in the large intestine were not very evident, as they were not more than one third of an inch in diameter It was doubtless through these ulcers that the organisms found their way to the liver Dr Wenyon advocated the careful isolation of carriers and their continuous treatment with emetine, even in the absence of symptoms, because of the danger of their being the means of infecting the community

Dr W J PENFOLD spoke of his experience in examining the stools of convalescing dysentery patients in King George's Hospital. 103 cases were examined, and 47 5 per cent of these gave evidence of previous bacillary dysentery A proper classification of the cases spoken of had not yet been completed All the cases were from the Mediterranean, and the bulk of them became infected in August and September

Dr J W CROPPER said that for some years he had been examining free living amœbæ of the non pathogenic type The jelly method of Dr H C Ross had been employed, and an effort had been made to ascertain why amœbæ encysted, and why subsequently they came out of their cysts The conclusion arrived at by his co worker, Mr A H Drew and himself was that the behaviour of the amœbæ was greatly influenced by the bacteria with which they were associated He thought the different substances used in treatment acted as intestinal antiseptics causing the amœbæ to encyst, and so leaving less of them free to produce symptoms

Dr A NEWSHOLME, C B, spoke of the great value which Sir Ronald Ross's lecture would be to the practitioners throughout the country especially those medical men who were seeing patients returned from the Eastern theatre He was specially interested in the preventive side, and had been much impressed by the estimate that about one-seventh of the cases of dysentery might develop liver abscess That led him to emphasise the value of Sir Ronald Ross's advice to push emetine for all the worth it possessed The happy immunity of England from dysentery before the war, except in asylums, seemed unlikely to be continued and he would therefore like to hear whether there were any effective means of preventing the serious possibilities from becoming realities He concluded by proposing a hearty vote of thanks to Sir Ronald Ross for his paper

Dr F J WETHERED seconded the resolution of thanks, and stated that he had seen a large number of Australian officers who had come from the Dardanelles after having suffered from dysentery Some were from the Medical Corps and he questioned them as to the results of the administration of emetine The answers varied but the majority seemed to greatly favour it He asked whether the means of spread of dysentery was a composite one, was it chiefly fly borne or was it due to diet ?

Dr BRADSHAW expressed his disappointment that neither the paper nor the discussion, so far, had dealt with chronic dysentery because that was the stage of most of the cases in the base hospitals in this country They came with the history of having suffered from dysentery, but otherwise they simply seemed to be subjects of chronic diarrhœa of an intractable kind The anxiety concerning these cases had been increased since the receipt of the War Office instructions that no cases of dysentery were to be discharged from hospital or transferred to another hospital until three negative bacteriological reports had been received concerning them, spread over a period of a month In the South African War he had cases of dysentery which got well on massive doses of ipecacuanha and no liver abscesses supervened later He was anxious to know what was the best treatment for chronic cases which hung fire, the patients not being particularly ill His own favourite method of treatment was by means of castor oil, and he narrated the origin of the use of the oil in dysentery, by missionaries in Barbados, and the references to castor oil at that time did not mention its purgative properties, but simply that it was the best treatment for dysentery He had had very good results from that treatment

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[1] THE LANCET, vol ii, 1915, pp 1173 12[illegible]

Dr J P S DUNN urged that dysentery patients should not be frequently changed from one doctor to another In some hospitals a doctor who had had experience of dysentery had no cases of that disease under him, they were being dealt with by those who had had no previous experience of it It was also most important that at least one doctor on each hospital ship should have had that experience, though he knew, from his work in the South African War how difficult it was to treat men as well on board ship as on shore And he thought improvement was possible in the direction of giving the patients more complete rest When men were convalescing from dysentery they should not be allowed to get up and go to the lavatory, he believed that custom was responsible for many relapses With regard to diet, he starved his patients for the first few hours, giving only water, with perhaps a little brandy If rapid improvement set in he gave very small meals—egg and a little rusk, this called the masticatory muscles into action, and only the powdered food passed into the stomach Liquid paraffin given carefully and hot applications to the abdomen were important in acute cases, and absolute rest should be ensured He would like to know that an official warning had been issued to the profession in the Empire as to the likelihood of many cases of liver abscess occurring, and advising medical men to be on the look out for them at the same time pointing out the importance of giving doses of emetine

Professor W J R SIMPSON mentioned that Mr Eccles in the Bombay Presidency, treated 22 cases of dysentery with emetine and morphia in 1869 with very satisfactory results But he thought it should be used with care Enteritis had been produced in dogs by large doses of emetine, it seemed also to cause an affection of the nervous system and collapse Small continuous doses of it caused enteritis

Dr MURRAY LESLIE asked whether liver abscess was more likely to supervene in cases of dysentery which showed jaundice He also spoke highly of the value of liquid paraffin in the disease

The PRESIDENT pointed out as a matter of historical interest that Sir William Gull's treatment of dysentery consisted of 5 grains of ipecacuanha three times a day, rest and warmth There was a time when emetine was extracted from ipecacuanha because it was the active principle responsible for the vomiting and it was not surprising that the de-emetinised drug was a failure In the cases of dysentery seen at the Greenwich Seamen's Hospital no organisms were found, they were treated with astringent methods and got well

The resolution of thanks to Sir Ronald Ross was put and carried with acclamation

Sir RONALD ROSS in reply said he regarded cases such as those mentioned by Dr Bradshaw as old cases the chronic cases would be seen in from five to ten years Some of the questions raised would he hoped be settled by the workers at Dr A R Ferguson's central laboratory, Alexandria. He was unable to say how the spread of dysentery could be prevented The bacteria were found plentifully in the sand and among the catacombs—indeed it was known in Egypt as "sand dysentery" There was a real danger of acquiring the disease at the latrines and it was possible to convey it by means of the enema syringe Some of the points raised especially by Dr Dunn would receive attention in the proper quarters

SECTION OF DERMATOLOGY

Exhibition of Cases

A MEETING of this section was held on Dec 16th 1915 Dr J H STOWERS, the President, being in the chair

The following cases were shown and discussed —

Dr GRAHAM LITTLE 1 Granuloma Annulare of one year's standing in a man, aged about 30 who also presented an exaggerated follicular eruption on the lower extremities The questions raised were whether the follicular eruption had any connexion with the granuloma annulare, and whether both pointed to tuberculous disease although no evidence of the latter had been discovered —The PRESIDENT and other members were of the impression that the follicles were not more prominent than they often are naturally —2 ? Lichen Planus The patient had scattered lesions about the body with a well marked serpiginous lesion on one foot As Dr Little remarked the histological examination did not support the tentative diagnosis held The Wassermann reaction was negative —The PRESIDENT, Dr J J PRINGLE, Dr H G ADAMSON, and Dr A EDDOWES considered the case to be of tuberculous origin

Dr KNOWSLEY SIBLEY A case for diagnosis The patient, a man had had for some years polymorphic skin lesions, which commenced on the knuckles, presumably as angio keratomata Elsewhere on the body were verrucose and ulcerative lesions, which on healing left very marked scars The Wassermann reaction was negative and the von Pirquet test uncertain —Dr R M TRAVERS-SMITH considered it to be a case of angio neurosis —Dr J H SEQUEIRA was of the opinion that it was a tuberculous manifestation, due to the presence of circulating tuberculous toxins —Dr ADAMSON was in favour of dermatitis artefacta —Dr A M H GRAY thought that it was a case of persistent dermatitis of unknown cause —Most of the other members regarded it as a tuberculous affection

Dr SEQUEIRA Myxœdema with Sclerodermia The patient a woman aged 56 first came under observation 15 years ago, suffering from myxœdema. Under continuous treatment with thyroid extract (gr i ter omn d) the myxœdema disappeared but two years ago sclerodermia appeared and affected the lower third of both legs The chief interest of the case was that the latter condition had appeared in spite of the thyroid treatment thyroid being a drug which is largely advocated for sclerodermia

Dr GRAY (for Mr WILFRED TROTTER) A case of Recurring Herpes on the right side of the face since one year of age in a girl aged 11 The attacks recurred every two or three months and were always preceded by fever and malaise —Opinions were divided as to whether there was also present a true facial hemiatrophy or merely contraction of the diffused scar tissue and also as to whether the condition was of central or peripheral origin—in other words whether it was a case of recurring herpes zoster or herpes febrilis —Dr SEQUEIRA had a somewhat similar case in which removal of the tonsils and adenoids had cured the condition and other members cited instances in which removal of bad teeth wax from the ears and correction of astigmatism had caused the attacks to cease

Dr G PERNET Acute Involvement of the Soles in a case of Morphœa and Sclerodermia

Dr KNOWSLEY SIBLEY A case of Actinomycosis

Dr EDDOWES A microscopic section which members generally considered to be of a naevoid character—probably a mole

ULSTER MEDICAL SOCIETY

Some Experiences of War Surgery

A MEETING of this society was held on Dec 21st 1915 Dr A G Robb the President being in the chair

Colonel ANDREW FULLERTON A M S one of the consulting surgeons to the British Expeditionary Force delivered an address on the work of the medical officers of the army from his experiences at a [illegible] He explained that the similarity of the work in the [illegible] stations was largely done by the officers of the Royal Army Medical Corps the surgical consultants and specialists being temporary officers selected from the staffs of the civilian hospitals It would be readily understood, he said, that every day there were cases in which a second opinion was necessary, and the system of consultants in his area had worked with the utmost smoothness The more competent the surgeon the more desirous he was of talking over his difficult and dangerous cases with the consultant and the public could be satisfied that everything was being done for the wounded soldier Cases were constantly arising in which it was desirable that the consultant should himself operate, when every facility was placed at his disposal The consultant was, in fact, responsible for all the surgical work done in his district and in his experience he was usually fortunate in the officers over whom he had supervision. He paid a high tribute to the organisation of the Royal Army Medical Corps saying that nothing could exceed the smooth working and efficiency of the machinery which transferred the wounded soldier from the trenches to the base or the hospital ship, as the wounded soldiers constantly testified He then detailed some general lessons of the surgery of the war Sepsis in brain surgery—as, indeed in all branches of war surgery—was he said, the bugbear of the surgeon, and required even more attention than operation Deep searching for foreign bodies in the brain was to be discouraged, and a bullet that was causing no symptoms should be left alone if not easily accessible Persistent hernia cerebri was best treated by lumbar puncture or decompression operations If the patella were shattered it ought to be removed If the lower end of the femur or the upper end of the tibia were badly comminuted it was probably better to amputate at once above the knee The question of the removal of foreign bodies from the knee-joint was a difficult one Rough particles like shell and bullet-casing have probably carried in bits of soiled clothing with micro-organisms and are better removed, but each case must be considered on its merits and the judgment and experience of the surgeon will often be taxed as to the proper procedure Swollen septic knee joints with no fracture and no retained foreign body, offer problems requiring abundant experience, and he made it a point to see every available case and watch its progress He had come to the conclusion that indiscriminate draining of knee joints with tubes was a mistake Fixation, excision of the wound aspiration and washing out with saline, aspiration and injection of such substances as ether, formalin or glycerine, simple incision without a tube packing of the joint with gauze laying open the joint by turning back the patella, with perhaps full flexion of the joint were all measures useful in given cases Failing benefit from any of these amputation was the only resource In the shoulder and elbow excision had been followed by good results In the hip it was occasionally necessary to remove the head of the bone in order to drain the joint and he described several cases in which life had apparently been saved thereby Colonel Fullerton concluded by dealing with the means used in France to immobilise fractures and exhibited the splints in general use, as well as Major Sinclair's apparatus for suspending limbs in splints and Captain Bryan's segmented suspended bed[1]

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[1] See our present issue p 25

MEDICAL MAGISTRATES — Mr Arthur Henry Headley Heckle M R C S L R C P Lond and Mr Cecil Christopherson M R C S L R C P Lond have been placed on the commission of the peace for the borough of Hastings

THE LATE DR. ROBERT KINGDON ELLIS — Dr R K Ellis who was fatally injured at a railway crossing at Isipingo near Durban on Nov 20th last at the age of 54 years was a popular member of the medical profession in Durban and district He was at one time Government medical officer in Zululand and later resident surgeon at Durban Hospital At the time of his death he was in practice at Isipingo Dr Ellis was one of the most kind hearted of men and his sudden death is felt as a great loss to the community to whom he ministered He leaves a widow and daughter

Reviews and Notices of Books.

A System of Medicine

By Eminent Authorities in Great Britain, the United States and the Continent Edited by Sir WILLIAM OSLER, Bart M D F R S, Regius Professor of Medicine in Oxford University, assisted by THOMAS MCCRAE, M D, F R C P Professor of Medicine in the Jefferson Medical College, Philadelphia. Second edition, thoroughly revised. Illustrated London Henry Frowde and Hodder and Stoughton 1915 In five volumes Pp 5500 Single volume, 35s the five volumes £7 15s

THE appearance of a second edition of this great System is not only a source of sincere gratification to the editors and to the publishers, as Sir William Osler and Dr McCrae state in their brief preface, but is also a great boon to the medical public

The international character of the System may be gathered from the following analysis of the 96 "eminent authorities" The United States have contributed 74 of these, 11 each from the Universities of Pennsylvania and Harvard, 7 from Johns Hopkins, and 5 from Yale Great Britain follows with 14 contributors, 10 of them from London, 2 (including the editor) from Oxford, and 1 each from Liverpool and Edinburgh Canada follows with 6, five of them from McGill University Germany and Japan contribute one each—namely, Dr W P Dunbar, of Hamburg (Asiatic cholera), and Dr K. Shiga, of Tokio (bacillary dysentery) Six years only have elapsed since the completion of the first edition, and the opportunity of revision has occurred before most of the articles in the System have become seriously out of date The editors say that the revision has been thorough and that certain important changes have been made The new, or practically new, sections will be found on pellagra, beri beri, trypanosomiasis, Malta (undulant) fever, and electrical diagnosis in cardiac disease

A praiseworthy attempt at condensation has been made in spite of steadily increasing subject matter, and this has been carried out by abridging the etiological and pathological sections rather than those on diagnosis and treatment On the contrary, special stress has been laid on these two latter throughout the five volumes The condensation has resulted in five volumes instead of seven, and a total number of about 5500 instead of the 6200 pages of the first edition Each volume is approximately the same size as before, type and paper have been altered, the former is larger, the latter more shiny We are old fashioned enough to prefer them as they were Ease of reference is provided by an index at the end of each volume and a general index at the end of the last As the volumes have apparently been published simultaneously no inconvenience has attached to this arrangement of indexes We question, however whether with a System of this size it is not preferable to have a single detailed general index printed either separately or repeated at the end of each volume Minor criticisms might include the absence of any list of illustrations and of any complete index of authors although the names of these are given at the opening of each volume More serious is the capricious distribution of the illustrations To take an example for the 235 pages devoted to tuberculosis there are but two, one a small graph of mortality returns in phthisis the other a full page plate of a form of apparatus for artificial pneumothorax The articles on small pox and vaccination contain, on the other hand, 11 full page plates

We hope that the editors may consider the issue of a supplement of illustrations to the System They will thus complete the obligation under which they have placed the profession of medicine in issuing a book which is a library in itself and the use of which can often take the place of laborious search through masses of contemporary literature

A Manual of Pharmacology

By WALTER E DIXON F R S , M D Lond , Professor of Materia Medica and Pharmacology at King's College, London, University Lecturer in Pharmacology Cambridge Fourth edition, completely revised London Edward Arnold 1915 Pp 467 Price 15s net

THREE years have elapsed since the third edition of this work was reviewed in these columns[1] What we had to say then in commendation of the work is equally true of this "completely revised" edition—indeed, a perusal of it and a comparison with the previous editions show it to be almost a new volume, so largely have some parts of the text been rewritten This change is due to two causes first, the great increase in our knowledge of the action of drugs, largely the result of experimentation on animals and investigations on surviving excised organs of animals The second cause is that the production of the new Pharmacopœia has necessitated the revision of the materia medica, though it has not entailed the introduction of any new drug which was not described in the earlier editions With the new Pharmacopœia came the introduction of the dual system of dosage It will take some time before the decimal system supersedes the old and more familiar dosage system The number of tracings, already large, has been increased, a few new figures have been added, which raises the total number of excellent well printed illustrations to 91

So far as the arrangement of the text is concerned the number of chapters, their titles, and the list of their contents are practically the same as in the first edition, but an intimate study of the contents of each chapter shows large advances in our knowledge To take for example, the group of cardiac tonics, including digitalis strophanthus, and squill, we find the few pages dedicated to an explanation of cardiac physiology as a basis for the study of cardiac drugs to be most illuminating The exposition on digitalis has been recast, and in the study of its physiological relations the decerebrate animal has been utilised Amongst the vegetable hypnotics the subject of morphine has been similarly recast and rewritten and the same may be said of strychnine In the chapter dealing with drugs acting on nerve endings—e g atropine—some of the pages are practically identical with those in the first edition but in others very considerable modifications and additions have been made Not the least interesting part of this chapter is the author's attempt to explain in a simple manner the mechanism by which such drugs exert their action on nerve endings The printing of some of the tracings in this chapter does not appear to come out so clearly as in the corresponding figures in the first edition

The reader who would profit to the full by a study of this work must have a good general knowledge of physiological methods, as well as be conversant with the results of modern physiological teaching Even many physiologists will find much to learn in these pages No one at the present day can write a good and discriminative text book on pharmacology who has but an imperfect knowledge of modern physiology This work is based on sound physiological knowledge on the part of the author

The fourth edition of this work will add to the high repute which the author has attained in the domain of pharmacology—a repute well reflected in the tersely written and systematic treatment of a subject which in some respects has hardly gained that attention in the medical curriculum which its high practical value demands

Diversions of a Naturalist

By Sir RAY LANKESTER K C B F R S London Methuen and Co 1915 Pp 424 Price 6s

THE authorship of these essays relieves the reviewer of one tiresome duty—the search for error, apt at times to be so prevalent in the popular exposition of science Here we have the leisurely work of our first zoologist, to whom the actual facts with which he deals are known from many years' experience in the field as well as in the laboratory We can, therefore, sit down and read without the obtrusion of any anxious doubt as to the statements

Sir Ray Lankester wanders about in his 41 chapters from place to place, and from subject to subject We start for instance, fairly early in the morning in Sussex, but immediately depart for Norway to dredge for rhabdopleura in a deep fjord Rhabdopleura duly dredged up and pickled for future reference, we hasten back to Sussex to consider the fragmentary skull of primeval man This discovery leads us to a dissertation on the ape brain and the ape mind and by a not unnatural transition, to divining rods and other examples of the unintelligent or dishonest divagations of the human brain Upon all of these latter topics the author is crystal clear, permitting no haze of any kind He sees only sheer swindling or ignorance Moreover, a detailed account of the processes adopted in a particular case by an alleged expert in the use of the divining rod is given as a proof of the necessity for this uncompromising attitude Many of the articles are quite purely zoological and the eminent writer does a useful work in bringing clearly before the lay reader the salient facts in the history of the barnacles, the classification of crustaceans the mode of life and organs of the living body among worms and such like topics The less instructed reader will delight in such chapters as that on amber To many of us probably to most of us the idea of blue amber is a novelty [illegible] the author comments upon the fact that this fossil resin is not always yellow or golden but occasionally deep red and even blue Sir Ray Lankester reminds us that amber is mentioned in Homer it is mentioned as forming a [illegible] of [illegible] in the Odyssey forming part of a gold necklace Its [illegible] was doubtless due to the fact that [illegible] then as now the chief source of supply [illegible] sources of [illegible] amber [illegible] we learn from Sir Ray Lankester [illegible] African copal and the [illegible] times be found [illegible] substitute

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[1] The Lancet [illegible]

There are other matters on the outskirts of zoology with which the author concerns himself in the same interesting way The legend of the origin of the Bernicle goose from the barnacle receives some highly readable comment Sir Ray Lankester scoffs at and rejects Max Müller's explanation of this myth, and terms it "an excellent case of the misuse of hypothesis" The Brent goose, thought Max Müller, was called Berniculus by the clergy as a diminutive of Hibernicus—a "little Irishman" in fact This appears, however, to be a sheer invention, and was made to explain the legend instead of the legend explaining any fact The author himself is not so bold as Max Müller in any attempted explanation, but he quotes from students of Mycenæan pottery who have at any rate shown that in the ornamentation of this pottery a leaf of a tree is gradually converted into the similitude of a goose and also of a barnacle—thus is the Irish legend of monkish origin largely antedated We are inclined to believe that the story of Dick Whittington's cat, quoted by Sir Ray Lankester as a just instance of the origin of a legend from the change of meaning of a word, has not the significance which he thinks He holds that the Norman French "achat," very likely pronounced "acat," which means commerce, was, indeed, the origin of Dick Whittington's fortune This view can be traversed The domestic cat of this country, which is not the offspring of the European wild cat, was introduced, and was a rarity at one time The derivation of the word puss, which has been held to be from Persia, or from Pasht, or Bubastis, is indicative of the non English character of the cat Association with a cat was a sign of wealth, as witness the evergreen story of Puss in boots

Sir E Ray Lankester's diversions make thoroughly amusing reading

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Life A Poem

By BASIL GORDON MORISON, M D With a Preface and Biography of the Author London Baillière, Tindall, and Cox 1915 Price 3s 6d net

To those who know Basil Morison this little volume, which contains also a biographical memoir of the author will be of value for his sake, and to others who did not know him it may show the manner of man that he was From the preface we gather that the poem was written, probably in the last year of the author's life, to give concrete expression to ideas on which he had pondered long and deeply The day before his death—which he knew was imminent, and which he regarded with unruffled composure—he told his wife that he had written a few verses "which might be considered worth publishing The poem takes the form of a dialogue between man and the spirit of life In its opening verses it describes the course of normal and happy human existence in a measure which recalls the cadence of Gray's 'Elegy,' while many of the verses are reminiscent of Omar Khayyam, although the philosophy expounded differs wholly from that of the writer of the 'Rubaiyat' If his life had been prolonged Basil Morison might have been inclined to extend and amplify his theme and to finish the poem on a yet more exultant note of assurance Such stanzas as the following show that although Morison turned late to metrical form, he had much facility in that medium

A PRAYER

Lord of Thy [illegible] and Thy power
[illegible]
[illegible] the hour
[illegible]

Resolved, and calm, not slow, nor fain
In weakening doubts to stay,
Alert yet so that I retain
Thy guidance, and obey

Deny me pride that seeks a fall,
Forbid servility,
Give that most gracious grace of all,
Give me humility

A friend of Morison writes to us as follows of the book "To one who has lived more than half his life in Stoke Newington, and who was honoured by his unbroken friendship for more than 30 years, the Memoir is especially interesting The 'Smallest Borough in London' has always been proud of its literary associations, to which another is now added, while, to very many of its present inhabitants the sunny smile, the ever cheerful greeting, and the overflowing vitality of the author of 'Life,' will be a happy and abiding memory"

JOURNALS

Journal of Anatomy and Physiology Conducted by Sir WILLIAM TURNER, K C B, Professor ALEX MACALISTER Professor ARTHUR THOMSON Professor ARTHUR KEITH, and Professor ARTHUR ROBINSON Vol L Third Series, Vol XI, Part I October 1915 London Charles Griffin and Co Annual subscription, 21s post free —The longest and most important paper in this issue is one by *Professor J E Frazer and Dr R H Robbins* on the Factors Concerned in Causing Rotation of the Intestine in Man The subject is a very wide one and the title itself suggests an initial comment for it is obvious that no explanation can be concerned with this rotation in man alone, the underlying factor which operates in man must be capable of application to the mammalia generally It appears to be a merit of this paper that the greater part of it is capable of standing the *strain of* this wider extension Two distinct problems are involved in this study first, the primary fixation of definitive portions of the alimentary canal, and secondly, the causation of rotation in the loop dependent between the primary fixed points The first question has been given a wider significance even in the short while that has elapsed since the reading of this paper, and it is one destined to be carried yet further The second question we imagine the authors have largely solved, in some if not in all of its distinctive stages —Professor Arthur Thomson contributes a long and exceedingly well illustrated paper upon the Presence of Genial Tubercles in the Mandible of Man and their suggested Association with the *Faculty of* Speech The article deals with far more than the mere presence of these tubercles for it is a study of many features of the lower jaw, and it might be *added* that research of this magnitude is hardly needed to demonstrate that the human faculty of speech has nothing whatever *to do* with any trivial moulding of the mandible The whole structure and variations of the region of the symphysis receive ample treatment, and the paper is a valuable record of the conditions present in a very large series of cranial types But it is perhaps, a pity that the author should create an impression that such *an elaborate* research valuable for its own sake was necessary to determine if a cerebral evolution like the power of speech depended on the mechanical presence of these inconsiderable features —A paper upon the Homologies of the Chelonian and Mammalian Types of Genitalia by *Professor F Wood Jones* continues and sums up the previous articles in the journal contributed by the same author The writer contends that from the Chelonian condition mammalian evolution in respect to the genitalia has taken place along two lines which result in distinct types *of adult* external genitalia The paper is illustrated by drawing of actual embryos —Mr F J F Barrington contributes an article on the Mucinous Changes of the Vaginal Epithelium of *Certain* Mammals in Pregnancy The changes as shown by the excellent coloured illustrations are distinct enough and are obviously of some very real functional importance But as the author shows there is a bewildering inconstancy from species to species *and* even among individuals of the same species that tells plainly that more work is required in this field before we may draw definite conclusions —Mr W E Collinge records and illustrates an interesting and valuable series of abnormal developments in the vascular system of the frog, and most of these anomalies obtain a ready explanation from the known stages of development of the vascular system —A paper upon the Developmental Changes in the Pericardium, the Mesocardia and the Pleural Sacs of the Human Embryo, by Professor David Waterston, deals with some difficult problems in embryology The paper is illustrated by drawings of reconstruction models, and since these models have been placed upon the market they are open to further study and comparison with earlier and later stages of the human embryo

Reports and Analytical Records

FROM

THE LANCET LABORATORY

THE EDINBURGH ANTISEPTIC EUSOL

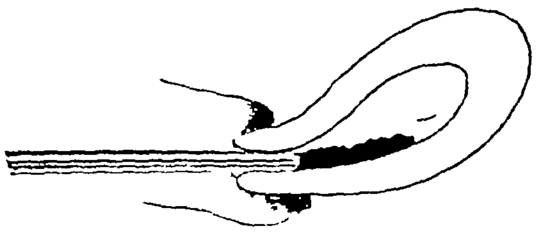
(MESSRS DUNCAN FLOCKHART AND CO , 104, 106 108, SOUTH CANONGATE, EDINBURGH)

THIS enterprising firm has hit upon a convenient way of extemporaneously preparing a solution of hypochlorous acid for antiseptic purposes They issue a case containing packets of boric acid and of chlorinated lime respectively Of course, chlorinated lime is very susceptible to deterioration under the combined influence of moisture and the carbonic acid of the air This deterioration is successfully prevented by packing the bleaching powder in heavily waxed paper The claim that the activity of the chlorinated lime is thus preserved is substantiated by our examination Thus we found that the available chlorine present amounted to 29 82 per cent This approximates to the French standard of 100° of chlorine gas Since hypochlorous acid is the active agent concerned, we are led to believe that bicarbonate of soda might well be substituted for the boric acid, with the additional advantage that it would have acid neutralising properties When bicarbonate of soda is mixed with chlorinated lime the solution contains hypochlorous acid in spite of the presence of the bicarbonate The fact is that hypochlorous acid is easily expelled by carbonic acid from the hypochlorite If it were not so, bleaching powder would be of little use employed in the ordinary way, since it is not until the carbonic acid in the air acts upon it that its disinfectant and antiseptic properties become potential

IODARGOL UTERO TOPIQUE

(MESSRS M BRESILLON AND CO GAMAGE BUILDINGS, HOLBORN, LONDON, E C)

The value of iodargol in obstetrics has been often asserted and good results in certain uterine affections might be anticipated in view of the fact that iodargol presents iodine in colloidal form An apparatus for the treatment of metritis and known as the utero topique has recently been introduced by M Bresillon and Co Its action will be understood from an inspection of the accompanying illustration It consists of an injection tube or cannula attached to a collapsible metal container in which is the supply of iodargol in a jelly like medium This is expelled in a quantity under complete control by a key the rolling over of which gradually discharges the contents The illustration shows the cannula in position in the cervix The cannula is grooved in order to allow of the escape of air as the cannula enters Iodargol has been used for general antiseptic treatment of both the male and female genital passages



(1) "TABLOID" SODIUM ACID SULPHATE (2) COMPOUND MENTHOL SNUFF

(MESSRS BURROUGHS, WELLCOME AND CO SNOW HILL BUILDINGS, LONDON, E C)

1 The bactericidal action of sodium acid sulphate deserves more attention than it has hitherto appeared to have received It is very rapid in destroying the typhoid organism, and this should render it of great service to the soldier in the field He has only to add a tabloid of sodium acid sulphate to a pint of water and leave it for half an hour when he can be confident that the water is safe to drink The slight acid taste which the addition of bisulphate gives is not objectionable, and in the tabloid a small amount of sweetening agent is present which renders the water palatable 2 Compound menthol snuff is well known as affording relief in the treatment of common colds, nasal catarrh and so forth, but its application has been materially improved for export purposes by packing it not in metal boxes, but in a watch shaped glass bottle This preserves the menthol intact, and is particularly suitable for use in tropical countries

VITAMOGEN

(MESSRS WILLIAMS AND CO 24-26, HOLBORN LONDON, E C)

The name of this preparation implies the presence of the so called vitamines It is difficult to confirm chemically any claim on this ground since the chemistry of vitamines has not yet been definitely settled and the particular substance extracted from yeast and the outer layers of rice gives so far as we are aware, no definite chemical reactions Following, however, the method enjoined for the extraction of vitamines from substances containing them, we obtained an alcoholic extract from vitamogen after fat had been removed, which gave distinct evidence of the presence of a basic body Vitamogen contains all classes of food as shown by our examination—proteins, carbohydrates, fats, and mineral salts rich in phosphates According to recent work vitamine is a base and not a phosphatide We do not know how vitamogen is prepared but presume that it contains vitamine extracted from a vitamine containing food product which might be yeast or a cereal We found starch cells present The particular claims of the preparation can only be proved by practical trial and it seems worthy of such a test

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THE LATE DR. G A HERON —At a meeting of the Council of the London and Counties Medical [illegible] Society Limited held on Dec 16th 1915 at the offices of the Society under the presidency of Colonel F C [illegible] it was unanimously resolved "That the members of the Council desire to place upon record their very deep sense of the great loss sustained by the Society by the death of its President and Chairman of Council Dr George A Heron During the 23 years that Dr Heron was chairman he devoted his valuable time and [illegible] to the [illegible] of the Society for which the Council and members can never fail to be sincerely grateful "

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PROPHYLAXIS AND TREATMENT OF HAY FEVER BY "POLLACCINE"

Hay fever is the poisoning produced by the pollen of certain plants when it comes in contact with the mucous membrane of susceptible individuals In this country the pollen usually responsible is that of Timothy Grass (phleum pratense) The condition can be diagnosed by (1) its characteristic symptoms, (2) its periodicity, occurring when grass is in flower and not at any other time, and (3) by a characteristic ophthalmo reaction

In using "Pollaccine" it is highly desirable to make a specific diagnosis because it is useless to immunise against pollen unless pollen is actually causing the symptoms from which the patient periodically suffers When an extract of grass pollen is dropped on to the eye ball of a normal individual at any time of the year no effect is produced, but when it is dropped on to the eye ball of a periodical sufferer from hay fever the conjunctiva becomes inflamed and the patient begins to experience sensations of an attack of hay fever *The difference between the normal and the susceptible individual constitutes the diagnostic reaction* A positive reaction involves only slight and transient conjunctival or nasal irritation to the patient, quite unlike the rather serious consequences sometimes following the tuberculin reaction

For the purpose of carrying out the hay fever ophthalmo reaction an Outfit is supplied containing 7 dilutions of pollen extract in sterile hermetically sealed glass tubes "Pollaccine" contains carbolic acid and is therefore unsuitable for taking the ophthalmo reaction Not only does the ophthalmo-reaction give a specific diagnosis but the strength of the extract which just produced the reaction will be a guide to the suitable dose for inoculation

Prophylactic Treatment —The best prophylactic dose is one third the number of units which just produced the ophthalmo reaction, and the dose should be given every 10 or 14 days It is recommended that in very severe cases prophylactic treatment should be commenced in the early winter the milder cases being allowed to commence treatment later in the winter or even in the spring While one can say with confidence that a prolonged course of inoculation, given regularly, will almost certainly stop or profoundly modify the attacks of hay fever, it is much more difficult to say what is the minimum of inoculations necessary to bring relief There is usually only slight local reaction at the site of inoculation and no constitutional disturbance after the dose The only serious discomfort to be apprehended is an attack of urticaria and this can be cut short by one or two doses of calcium lactate 20 grains

As already stated it is desirable to make the specific diagnosis before commencing prophylactic treatment in any case but if it is advisable to try inoculation treatment without the help of the ophthalmo-reaction then the only guidance is the average reaction of hay fever patients during the winter The following shows the percentage of cases in which the ophthalmo-reaction [illegible] and the amount of "Pollaccine" to be used for prophylaxis —5 [illegible] of pollen extract react in 2 of cases and the prophylactic dose is 2 units, 15 units react in 4 of cases, dose 5 units 50 units react in 19% of cases dose 15 units 150 units react in 45% of cases dose 50 units 500 units react in [illegible], of cases dose 150 units 1500 units react in 6 of cases dose 500 units, 5000 units are rarely required to produce a reaction, and in no case should more than [illegible] be given for a prophylactic dose

Therapeutic Inoculation — The ophthalmo reaction not only gives the diagnosis but also indicates the correct dose If it is desired to try therapeutic treatment without the help of the ophthalmo reaction, the guide to dosage is the ophthalmo reaction of hay fever patients during the summer It is found that the best therapeutic dose is one tenth the number of units which just produce the ophthalmo reaction thus as the majority of [illegible] react with 50 units 5 units of "Pollaccine" is the average dose It is found that during the summer the ophthalmo reaction is produced by 5 units in 8 of cases and the proper dose of "Pollaccine" is ½ unit 15 units in 19% of cases dose 1½ units 50 units in 44 of cases dose 5 units 150 units in 21 of cases dose 15 units 500 units in 7% of cases, 1500 units in 1% of cases 5000 units very rarely required for reaction In the [illegible] cases the appropriate dose is 50 units

Preventive treatment in the winter is however more effective and more to be recommended

No guarantee can be given that the "Pollaccine" of one year will be identical in strength with that of a previous year "Pollaccine" prepared from the 1915 crop of season [illegible] pollen is slightly stronger than was that of 1914 [illegible] commencement of this year no "Pollaccine" [illegible] out other than that prepared from 1915 pollen [illegible] "Season 1915" is stamped on all the labels of "Pollaccine" obtained from this crop

"Pollaccine" is prepared in the laboratory of the Department of Therapeutic Inoculation [illegible] Paddington London and [illegible] following dilutions —5 units 20 units 100 units and 5[illegible] units at 2/9 per bulb and 2 [illegible] at 27/9 per bottle

The Hay Fever Reaction Outfit containing 7 [illegible] tubes of pollen toxin in graduated dilutions [illegible] for instillation into the patient's eye [illegible] 5/6 [illegible] 2 [illegible] 1/6 per [illegible]

For further [illegible]

[illegible]

THE LANCET.

LONDON SATURDAY, JANUARY 1, 1916

Thrift.

ONE great message of the new year is the need for thrift The press has been considerably occupied of late with the subject, and especially of thrift in connexion with the sphere of women as the stewards of home life, but there is not so far much evidence to show that any of us, males or females, have taken to heart the widespread injunctions to economise And yet it is increasingly evident that victory may be largely decided by thrift As the war has gone on the organisation for spending in all departments has become more elaborate, no similar organisation for saving has been attempted And we confess that organised national thrift is difficult to contemplate, so far as it takes the form of domestic economy, for that is a thing which in this country is quite individual But it is a serious question whether it should remain so, or whether an attempt should not be made to instruct the public in some authoritative manner upon how to get the best values for a modest expenditure There may be no sort of need in this country for ' fatless days ' or " meatless days,' but we are spending weekly the revenue of a respectable province, and with the many adjurations to economy emanating from the bench, the pulpit, and the inkstand there has seldom been combined any accurate scientific advice It is only necessary to pay a visit to the manufacturing towns of the West Riding of Yorkshire to see how reckless is the expenditure in consequence of the great trade boom which is still going on there The standard of living has increased in the last 12 months, and we have been told that the sale of pianos and motor cars testifies to the great profusion which exists This may be picturesque reporting, but we hear too that in many parts of the East of London investment has taken place of late in furniture and even in jewellery rather than in war stock In willingness to economise and to place individual resources unhesitatingly at the service of the State we fear that we are very greatly behind Germany

In Germany before the outbreak of war the necessary measures for household economy were widely known and they were put into practice immediately on the commencement of hostilities In a few months there appeared a comprehensive scientific study of the problems presented by the feeding of a nation, written not exactly for popular reading, but so that any scientific person could explain to the public the principles of economic food supply A summary of the book appeared in our columns,[1] the book itself being subsequently done into English with a preface by Professor A D WALLER The public press quoted freely from our summary at the time, but rather with the idea of calling attention to the success of the British naval blockade than of pointing to the value which such domestic organisation might prove to possess We would suggest a restudy of the document now to draw from it what instruction we may Our need for thrift is not as urgent as that of our enemies, but economy means money and a quicker end to the war The medical profession might lead the way in a thrift crusade, and perhaps the medical women are especially indicated to undertake this great task, but we do not know that the public is looking to us for initiative in thrift, or would find a united profession on the subject Here, indeed, there is room for drastic improvement The value of foodstuffs is now established on a scientific basis, and food can be measured in heat values without any risk of gainsaying The story of a district council, acting on medical advice in refusing to sanction the use of margarine instead of butter in their tuberculosis pavilion, is unfortunate at the present time, and Dr A NEWSHOLME was stating a well established fact and not merely his own opinion when he wrote —" There is no reason to suppose that margarine is less nutritious than an equal quantity of butter, and it certainly has no harmful or deleterious effect " When he added " I am using margarine in my own household, we imagine that he was merely saying what would be the practice of every household in the land that had given any intelligent consideration to food economy HINDHEDE has recently fed two workmen over a period of many months on potatoes and margarine only, and has kept them in good health on this sufficient but unattractive diet Fortunately in this country with its free imports there is no practical risk of being condemned to a diet of such monotony as this, but none the less the need for avoidance of all useless extravagance is the same Much is heard of the hardship of the employment of war bread by the Central Powers but no one who has ever grasped the value of a more complete utilisation of the germ than in our invariable white bread will ever consent to continue to waste so much of the valuable part of the grain Before the war the reason for the growing prevalence of white bread in Northern Germany was one of economy, based on LIEBIG's teaching that the outer layers of the wheat grain were better utilised by the pig and the cow, and thus indirectly as pork and milk, than directly by man himself Now that wheat cannot be in Germany legally given to cattle and pigs in any form, this theorem has been disproved, and there is no difference of opinion as to the value of the 75 per cent ground wheat. If we continue our preference for white bread we should at least make sure that the rest of the grain is really used for fodder.

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[1] The Food Supply of the German People THE LANCET Feb [illegible]

Thrift does not consist solely in eating margarine and wholemeal bread, although this would mean a great deal if the saving were invested in War Loan. The whole diet sheet should be intelligently supervised and, if need be, amended. And in so doing we should like to call attention amongst other guides to an admirable pamphlet[2] by the professors of agriculture and of bio chemistry at Cambridge. There we read that "Comparing the expenditure of the poor with that of the well to do, we find that the former get nearly twice as much for their money." *Here is the opportunity for the woman of the well to do household to give* her family the same amount of nutritive material whilst at the same time crediting much of the usual expenditure to her savings bank account. We believe that the medical profession, and especially the medical women of the country, could organise a thrift crusade on healthy lines, and are sure that in so doing they could command the finest and most willing scientific advice, but such a movement would need the full support and coöperation of all local authorities so as to remove the slightest suspicion of medical dictatorship. Further, we believe that the time has come, and indeed has been upon us for some months, when a national movement should be made in this direction.

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Wounds of the Abdomen

THE treatment of wounds of the abdomen remains one of the most difficult problems presented to the surgeon during the war. On the one hand, he cannot rely on the experience of the past, and, on the other, the lesions which may be produced vary enormously, they may result from the swiftly moving rifle bullet, the less rapid fragment of a shell or the shrapnel bullet, or may be the result of the almost spent projectile or the thrust of the bayonet. The experience of the past will not aid the surgeon greatly, for not only is the violence of the wounds inflicted greater than that met with in previous campaigns, but the conditions are considerably different, because of the number of the injured brought to the surgeon at one time. In this war of huge armies the crowds of wounded arriving after an engagement may be so great as to tax to the utmost the resources of any hospital and abdominal wounds in particular require for their treatment some time for reflection and some elbow room. In THE LANCET last week we published the Bradshaw lecture by SIR ANTHONY BOWLBY upon this subject and in the previous week an important paper by Colonel CUTHBERT WALLACE. This week we publish a further paper by Captain W C B MEYER and Lieutenant D C TAYLOR, a note to this last paper having been written by SIR ANTHONY BOWLBY. All this material gives us ground on which to reflect with a view to arriving at solid deductions. It is, of course, only penetrating wounds of the abdomen which we are considering, for a wound of the abdominal wall which does not penetrate beyond the superficial structures is usually of little importance. Now it may be difficult, and sometimes it is even impossible, to determine with absolute certainty whether an abdominal wound does or does not penetrate, and therefore statistics as to the number or proportion of wounds of the abdomen, as compared with injuries of other parts of the body, cannot be absolutely exact, and a comparison of the effect of expectant and operative treatment must always be to a small extent vitiated by this fallacy. Nevertheless, we can gain a fair idea as to the relative frequency of these injuries, and we find that in "field ambulances" we meet with a little under 2 per cent of abdominal injuries, while in "casualty clearing stations" the percentage has fallen to about a third of this number. Colonel WALLACE accounts for this reduction in the percentage by the very heavy mortality amongst abdominal cases at field ambulances, so that a large proportion of the injured never come to the care of the surgeons at the clearing stations. At all events, it is clear that the percentage of cases of abdominal injuries which will come under the care of the surgeon for operation is not great though he may be hampered in their treatment by the vast aggregate of the wounded.

At the beginning of this war the treatment adopted was under the influence of the practice employed in the South African War. Very few cases were submitted to operation, and the results then obtained were not calculated to increase the number of cases in which such submission would appear advisable. After a time the results of post mortem examinations showed that a number of cases had died in which a timely operation might certainly have saved life, and gradually operations have come to be performed in a higher percentage of cases. The communications to our columns already cited give a striking account of the results which have been obtained up to the present, and suggest perhaps more optimistic views than have hitherto been held. Both post mortem examinations and operations have shown that by far the most frequent cause of death is hæmorrhage and it is also clear that if the patient does not die from hæmorrhage he will almost certainly die from peritonitis if the intestine has been opened by a bullet or a fragment of a shell. But we also learn that it is possible for a bullet or a fragment of a shell to traverse the abdomen without wounding the bowel and that even many wounds in which perforation appears to have occurred are not penetrating wounds at all. The [illegible] tables which are attached to the paper by Captain MEYER and Lieutenant TAYLOR show that operations were performed in only about half of all the abdominal cases admitted in the district, in some cases this was because the patients were moribund and past help, but in other cases because an operation was not considered necessary, and this opinion was certainly justified by the fact that not one of the patients died for whom no operation was thought necessary Operation appears to be least necessary with wounds in the epigastric or hepatic regions, especially in antero posterior wounds, if no definite symptoms are present, but if there are any signs of continuing bleeding, an operation must be undertaken A wound of the stomach is less likely to be followed by peritonitis than a wound of the small bowel, for the mucous membrane of the small intestine pouts into the wound and increases the risk of peritoneal infection, while the gastric mucous membrane does not protrude Therefore, a wound of the stomach is in itself less serious than wounds of the small intestine SIR ANTHONY BOWLBY points out that all wounds without exception which seem likely to involve the area of the small or large intestine should have an exploratory operation and this should be followed by a laparotomy if the peritoneum is found to be wounded. That is one great lesson we have now learned An operation should also be done in all cases of wounds of the gluteal and lumbar regions where the symptoms point to a visceral lesion The statistics show that out of a total of 50 abdominal cases the stomach or intestines were wounded in 34, and of these patients no less than 21 recovered It is almost certain that not one of these patients would have survived if no operation had been performed

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[2] Food Economy in War Time. By T B Wood, M A, Drapers Professor of Agriculture, and F G Hopkins, M A, F R S, Professor of Biochemistry. Cambridge University Press. [illegible]

To sum up the present situation When the hospital facilities are obtainable, and when the patients can be seen within a reasonable time of the infliction of the injury, a patient who has a penetrating wound of the abdomen should have a laparatomy performed, and then he will have the best chance of recovery, whether he is suffering from hæmorrhage or from perforation of a hollow viscus Undoubtedly, many cases will die in spite of the operation, but a large proportion will be saved who otherwise would have succumbed either to the loss of blood or to peritonitis Where the conditions will not allow an abdominal section to be made because either time or facilities are wanting, then the best that can be done will be to keep the patient without food for several days Then some of these cases will recover, but it will in almost all cases be impossible to be sure that any wound of abdominal vessels or viscera has occurred It is yet early to expect statistics of a large number of cases but before long we shall be able to learn with more certainty the effect of early and skilled treatment of perforating wounds of the abdomen Our impression is that we shall receive gratifying information

The Supply of Medical Men for the Army

THE position of medical men with regard to the needs of the army remains the most momentous professional question of the hour With our fighting forces shaping towards the vast total of 4,000,000 it needs no imagination to see that the resources of medicine, of surgery, and of scientific sanitation in all its branches are going to be heavily drawn upon The public was reminded by a letter which appeared on Dec 16th last in the columns of the *Daily Telegraph*, signed "M D, F.R C S," that the question of how sufficient medical men are to be found for the army is one which concerns the whole population of the country rather than the army or the medical profession only, and though we do not think that the letter itself was a particularly useful or well informed one, we welcome its underlying message The reminder was not required as far as THE LANCET was concerned We have throughout been insistent on due thought being taken for the needs of the civil population, and have given at different times reasons for our views which we do not repeat, for they were so obvious that most will guess them Truly, it may be assumed that all medical men, all military authorities, and all leaders of political or social thought desire exactly the same things—success to our armies, and the safeguarding, at the same time, of our civilian population from the worst of the ills attendant upon the war Those who are not in agreement so far can be left out of all count, while the only difference of opinion existing between the rest of us turns upon the question to what extent the civilian population shall be sacrificed so that the naval and military forces may make good their endeavours to set right the monstrous evils that have been thrust by German ambition upon Europe

The War Office has said, and the War Office continues to say with increasing emphasis, that more medical men are required for the army It is perfectly easy to reply that the War Office is in error, but it is not so easy to see how those who make this reply come to be possessed of the complete information necessary to support their position, or to understand why the War Office should deliberately embarrass the medical profession by making untrue statements Some weeks ago the Central Medical War Committee, when that body was recognised by the War Office as the official recruiting medium for the medical profession, was warned that 2500 medical men would be wanted for the army early in 1916 Since then the Prime Minister has foreshadowed an addition to our army of a million men If some 2500 medical men were required with the army *before* this pronouncement, we may be certain that at least 3500 or 4000 are now required, unless complete reorganisation of the Army Medical Service can be contemplated at the present juncture At the same time there are signs that the civilian population is feeling the shortage of medical men, though to what extent it is difficult to say From some localities one story comes, from other localities another It is certain, however, that for a long time institutions of all sorts have been unable to obtain resident officers, and that public authorities have been obliged to put up with depleted staffs and to restrict their energies accordingly Now everyone can see that there is here a point at which danger to the country as real almost as danger from the presence of an armed foe, might come from the absence of proper medical and sanitary precautions at home It is imperative that the public health of the country should be kept in a good state, if only that munition workers and those directly concerned in supporting the effectiveness of our army and navy should enjoy good health, and that recruits should be drawn from wholesome sources Let us place this demand on medical service, if only for the sake of argument, as in no respect second to the direct demand of the War Office, and the position is at once clear—there is only a limited supply of doctors, urgent claims are made upon them in two directions, and economical use of them is the only way out of the difficulty But no one can say, If you take precisely this number of doctors away from the civilian population you approach or pass the danger point And similarly, no one can state that the army requires an exact number of medical men by an exact date—the War Office attempts no such excursion into prophecy when demanding increased medical assistance All that can be done is to husband resources, and to apply to the situation the rule that must be observed in every other set of circumstances while we are under the tyranny of this war namely, that during the adjustment of supplies the civilian population must go short—quite short, if need be, so that the army may be well supplied—quite well supplied For in civilian situations there is time to cope with emergencies while military needs are invariably urgent and have to be met in excess of probable requirements as the only way to guard against surprise The phrase "too late has occurred rather frequently in explanatory speeches dealing with our military undertakings, and it should be the ambition of every medical man to see that in no circumstances can these words be applied to medical recruiting

We may fairly urge upon the War Office the need for making every reform that is possible so as to use with the nearest approach to parsimony that is safe the quota of medical men who can be spared from civilian needs But we must not assume that, because somebody knows of some place or other where the medical officers are for the moment but lightly tasked the demands of the War Office are disingenuous and could be met by a little re-shuffling of the supplies in their hands The army must be made safe it should be sheltered from the dangers that can be estimated, and should possess reserves with which to meet the unexpected Therefore the civilian population must be prepared to endure sacrifices This is a side of the matter which is not sufficiently recognised, and the sooner it is understood by the public the better That same public which can no longer walk with ease and safety about the streets because the supply of lights is curtailed, which can no longer call for its pipe its bowl, and its fiddlers without much closer restrictions than in times of peace, will have to learn that medical attention can be given in a perfectly adequate manner by a smaller number of medical men than is usually available if the people will help in every way to spare the depleted ranks of medicine unnecessary trouble It is inconvenient to have to wait a long time for a doctor, it is disappointing not to obtain the services of the preferred man it may be a tragedy for an operation to be postponed These things may have to be endured The work of public authorities cannot be so comprehensive when the staffs are inadequate, but some of the medical energies of these authorities are spent in correcting the errors of the public, who must take greater heed on their own initiative to the rules of sanitary life We know that the National Health Commissioners are under a contract with regard to panel patients it may be that the panel patients will not obtain all that they consider they have been promised but we are certain that the medical profession is doing and will do all that is possible in the existing situation

Annotations.

Ne quid nimis.

THE INFLUENCE OF ALTITUDE ON THE NERVOUS SYSTEM

IT appears from an interesting communication in the *Aeroplane*, under date Dec 15th that certain officers of our flying service have suffered from some intangible disease which for lack of more definite diagnosis is put down as neurasthenia the functioning of the patient's nerves is so affected as to make him incapable of flying safely or usefully, he crashes his machine every time he lands or his eye is spoiled for observing or shooting Such symptoms are usually summed up by saying that the man is off his form but the writer specifies other symptoms of a more precise nature These have been referred to also in a recent number of the *D[illegible]* [illegible] *Presse* under the name [illegible] [illegible] are said to be caused mostly by rapid changes of altitude whereby the differences in air pressure and temperature make themselves seriously [illegible] ing headaches ear drumming, and [illegible] ing An aviator [illegible] lands in a state of complete [illegible] and physical collapse His head is splitting [illegible] intolerable pains [illegible] account of the [illegible] into which the [illegible] automatically falls The [illegible] mentions the occurrence of severe pains in the eyes, and declares that the sleep above referred to is like a drugged sleep, so profound is it. It appears, further, that when service flying usually took place at heights of 3000 to 4000 feet these cases did not present themselves, whereas since "improvement in anti-aircraft guns and gunnery has made 10,000 feet an ordinary reconnaissance height, and 12,000 to 15,000 a common height in crossing enemy lines" the question of variations in pressure and its possible relation to this curious pathological state obviously become matters worthy of serious attention. The writer in the *Aeroplane* makes the interesting suggestion that possibly the disease is an exact inversion of caisson disease, not occasioned, however, by excessive or insufficient pressure, but by sudden differences of pressure. An aviator will come down with a speed frequently exceeding a hundred miles an hour, at an angle of "one in one," so that "it is possible that the change from the low pressure at 10,000 or 12,000 feet to ground level in a few minutes may produce precisely similar effects to that produced by excessive pressure when diving."

After years of controversy and conflict of theory it has been established by exact experiment that the cause of caisson disease is that nitrogen dissolved in the body under pressure forms bubbles on sudden decompression and obstructs the circulation. From the most trifling disturbance to sudden death all symptoms alike are thus produced. It must be noted that it is the partial pressure of nitrogen in the atmosphere and not the general atmospheric pressure that is the important factor. P. Bert, for instance, exposed an animal to high pressure in an atmosphere poor in nitrogen and rich in oxygen without any untoward result, though decompression was rapid. Dr. Leonard Hill has shown that other factors are of great significance. Thus, it is not compression but decompression that gives rise to symptoms. Compression up to 4½ atmospheres is not in itself to be feared; the return to the normal pressure is alone to be dreaded. "The risk is proportional to the period and degree of compression and to the rapidity of decompression" (Hill). Where the activity of the circulation is great enough the nitrogen surplus will be carried away and escape by the lungs, whereas where it is slower and where the tissues are fatty—since fat absorbs five times as much nitrogen as water—the risk of bubble formation is very great. It is for this reason that the familiar "bends" occur in relation to joints and fasciæ, and that the white matter of the spinal cord is commonly involved. From the rapidity of the circulation through it brain symptoms are scarcely ever met with in caisson disease. Hill has also demonstrated conclusively that the pulse-rate, the blood pressure and respiration are but little altered by air compression *per se*.

"Flying sickness" in its more essential particulars is rather removed from caisson disease and is deserving of careful clinical and scientific investigation. It raises matters of interest in connexion with so-called mountain sickness. Edward Whymper stated from his own experience of this condition that the abiding symptoms are profound lassitude, intense headache, feverishness, accelerated respiration and occasional spasmodic gulping of air "just like fishes when taken out of water," palpitation and tinnitus. The latter two symptoms no doubt occur also with great frequency at relatively low levels. It is clear, we think, that flying sickness is not comparable in the strict sense with mountain sickness, in spite of the fact that some of the symptoms are more or less identical. Hitherto we have had little direct evidence of what occurs as the result of rapid transference from high to low altitudes, for the laborious ascent of the mountaineer into rarefied air is very different from a speedy return to normal pressures, while the climb of a flying machine is hardly so rapid as to cause any ill effect. The pilot who is lifted from his machine, after a fast *vol plané*, in a semi-conscious condition, falling thereafter into a deep sleep, shows a phenomenon not met with either in mountain sickness or in caisson disease. Nevertheless we believe that some light may be thrown on this by another consideration. In his "Scrambles among the Alps" Whymper states that on one occasion he slipped and fell some 200 feet in seven or eight bounds. Curious as it may appear, though conscious at first, he "was like a patient under chloroform and experienced no pain," albeit badly cut about the head. The bounding through space did not feel disagreeable. He says that in his opinion in no very great distance more consciousness as well as sensation would have been lost, and on this he bases his view that "death by a fall from a great height is as painless an end as can be experienced." In a recent number of a weekly contemporary an interesting note was given on the facts connected with parachute descents of other days, and it was stated that on one occasion, after reaching an altitude of over 12,000 feet in a balloon, the parachutist launched out, but fell at once many hundreds of feet before his parachute opened. It appears that as a result of his rush downwards through space he practically lost consciousness, holding on automatically and regaining his senses an appreciable time after the parachute had attained its normal rate of descent. Evidently there are effects on the functions of the nervous system which are attributable to very rapid descent through space, from low to higher air pressures, no doubt, but in which the alteration of pressure is probably only one factor, and that, perhaps, not the most important. These phenomena are likely to be less rare now than formerly, and they open up a fascinating subject for study, one in which, as in caisson disease, we may hope that exact methods of scientific investigation and control will eventually lead to work becoming safe that was once dangerous, and to the extension of the limits hitherto set to its scope.

THE HEALTH OF THE JAPANESE NAVY

THE total strength of the personnel of the Imperial Japanese Navy (officers excepted) in 1913, the latest year for which statistics have been issued, was 46,890, being a decrease of 635, as compared with the strength in 1912. The *ratio of cases of sickness*, that is, of admissions to hospital, was 682.2 per 1000, this being an improvement on the figure for 1912, which was 716.6, and a still greater improvement on the average of 16 years, which was 804.2 per 1000. In our own navy the ratio of admissions averaged 656.6 for the five-year period 1908–1912. The average *number* of men daily in hospital has been 22.34 per 1000, compared with the similar figure of 26.97 for the quinquennium in the British Navy. The mortality ratio of the Japanese sailor has been 3.33 per 1000 and the invaliding ratio 16.64 per 1000; the former figure is a most satisfactory reduction on the ratio for 1912 which was 4 92, and on the 16 year average, which was 5 16 per 1000, but the invaliding shows an increase on the average for 1912, which was 15 15, this in its turn being an increase over the 16 year average, which was 14 88 per 1000 Possibly the examination is more strict now than in former years In addition to the in patients in hospital, 29 1 per 1000 of the strength have been under treatment out of hospital, practically the same as in the year preceding (29 98), but a considerable reduction on the 16 year average of 35 2 Among infectious diseases by far the greatest number of admissions were from venereal complaints, of these, there were 3541 cases Paratyphoid fever comes next with 562 admissions for the A variety, and 160 for paratyphoid B, of true typhoid there were 102 cases Except for malaria (248 admissions) and dysentery (140) there was no prevalence of any communicable disease, beri beri caused only 88 admissions In addition to 4423 conscripts, there were 23,399 volunteers for the Imperial Navy, of these, 9769 passed the medical examination, but 12,717 failed, 933 were prevented from attending by unavoidable circumstances The large excess of failures over passes points either to defective physique in the class from which recruits are drawn, or to a very stringent requirement on the part of the examining authority Our own naval statistics do not give the proportion of rejections among recruits, but for the army this proportion has averaged only 321 per 1000 We may, however, be quite sure that the Imperial Japanese Government know what they are about in maintaining a high standard of physical development for the recruit, and if circumstances arise to call for their intervention in the present conflict, we have the greatest confidence in the skill and courage of the personnel, and in the completeness of the organisation and preparedness for action of the Japanese forces, both naval and military

THE SUPERVISION OF THE PRACTICE OF MIDWIVES

IN a letter on certain grievances of midwives, printed in another column, a correspondent calls attention to two matters of direct interest to midwives and affecting less immediately a section of the general public The facts stated by "Fair Play' speak for themselves With regard to the first question to which he refers, the notifying to medical officers of health or to maternity centres the names of patients who engage midwives for coming confinements we are disposed to look upon the matter from the point of view of the medical profession, and to ask ourselves what would be the attitude of medical men to a proposal to inflict such an obligation upon them We conceive that it would be entirely hostile, and that the argument that it would "cut at professional confidence would be strenuously urged in opposition to it The practice of midwives is rightly subjected to supervision not imposed where medical men are concerned, but it is desirable that when regulations and provisions for official inspection are introduced they should commend themselves as necessary and should have as little as possible the appearance of being directed against a particular class Birth registration the notification of births and the notification of infectious disease are provided for upon public grounds and without regard to the social or financial position of those in respect of whom notice is given Notification of a prospective birth if enforced by law upon midwives would be an obligation affecting exclusively women of the class that engages midwives, and its advantages might well be outweighed by the resentment or apprehension that it would evoke as "class legislation" On the other hand, we conceive that there is little to prevent an antenatal notification once declared desirable in the case of midwives being made to apply where medical men are engaged, if merely for the sake of uniformity and to prevent any outcry against "class legislation. Such an innovation would surely need considerable evidence of its desirability before it commended itself to the medical profession The second matter touched upon by "Fair Play' only concerns the choice of the authority to exercise control over lying in houses, and we are in accord with his opinion, which we understand to be that in the metropolis uniform administration by the London County Council is preferable to the independent efforts of borough councils working in contiguous areas and inspired by varying degrees of zeal and intelligence Those best acquainted with the work done by the London County Council and the metropolitan borough councils would probably agree that the former is the best suited to exercise with firmness and discretion, and at the same time with uniformity, the duties referred to in "Fair Play's' letter Probably also the London County Council is the best qualified as a central authority to perform the task with economy, without sacrificing efficiency Rigid economy where the expenditure of money is concerned will be absolutely necessary for public bodies, as well as for individuals, for many years to come

ACUTE PHARYNGITIS ASSOCIATED WITH ERYSIPELAS

A CASE of the very rare conjunction of acute pharyngitis with erysipelas which is of both clinical and pathological interest, is recorded by Dr H S Muckleston in the *Canadian Medical Association Journal* for November, 1915 On March 21st 1914, Dr Muckleston saw in consultation a man who had been taken ill on the 17th with what was regarded as an attack of influenza Pain in the throat and dysphagia began on the 20th He complained of pain in swallowing, extreme dryness of the throat, and a feeling of something that blocked the passage Speech was so difficult that he preferred to reply to questions in writing The tongue was dry and blackened the soft palate and anterior pillars of the fauces were swollen and deeply congested The palate was dry and ridged with strings of mucus adhering to it The uvula was swollen to the size of the little finger with scattered petechiæ and a large bulla near the tip The tonsils were congested The posterior pillars of the fauces were swollen and deeply reddened the swelling extending down the sides of the pharynx to the level of the epiglottis Except for moderate congestion and slight rounding of the epiglottis the larynx was free Some scarification of the uvula and the use of a 10 per cent solution of cocaine gave marked relief and swallowing became easier In the evening the patient suddenly became deaf and there was a discharge from the right ear These symptoms were found to be due to hæmorrhagic bullæ on the meatal wall One had burst and the other was punctured and when the meatus was cleared out the membrane was seen to be of normal lustre but slightly injected There was [illegible] swelling of the auricle On the next day there were pronounced redness and swelling of the auricle and cheek, but the pharyngitis continued to improve The inflammation of the skin spread to the scalp, across the head, and down the right side of the neck to the shoulder and arm There were hyperpyrexia and for some days delirium, but ultimately recovery took place Reiche and Schomerus have reported a series of 31 cases of pneumococcic infection of the throat, in two of which erysipelas developed In one case a woman, in the last month of pregnancy, developed pneumococcic pharyngitis with dyspnœa. Labour began on the second day and was completed on the third, when erysipelas began The child died when 3 days old and the mother died two days later Pneumococci were found in cultures from bullæ of the skin in the larynx, the tonsils (here in company with streptococci), and the blood of the child Delavan has reported three cases of erysipelas of the pharynx or larynx with facial involvement, the redness beginning at the lips or nose Dr Muckleston suggests that in his case the path of infection of the skin was through the retropharyngeal and deep cervical glands Though the streptococcus is accepted as the usual microbe of erysipelas, the power of the pneumococcus to set up what is clinically the same condition has been shown In the cases in which the period of onset of the erysipelas is reported this was either the third or the fifth day of the pharyngitis However, Cornil published 50 years ago 18 cases, in half of which the erysipelas was primary and in the remainder secondary Of the 9 cases of extension from without inwards, 7 were fatal, while in the cases of the reverse 2 were fatal Delavan quotes Hippocrates, who says "When erysipelas extends from within outwards it is a favourable symptom, but when it removes from without to the internal surfaces it is a deadly one" In 1895 Sir Felix Semon read a paper at the Royal Medical and Chirurgical Society on "The Probable Identity of the Various Forms of Acute Septic Inflammations of the Throat and Neck hitherto described as Acute Œdema of the Larynx, Œdematous Laryngitis, Erysipelas of the Pharynx and Larynx, Phlegmon of the Pharynx and Larynx, and Angina Ludovici" However, in none of 14 cases reported by him do there appear to have been signs of erysipelas

OZÆNA AND THE ACCESSORY SINUSES OF THE NOSE

THE connexion between ozæna and inflammatory processes in the accessory sinuses of the nose has been much debated since 1873, when Michel very definitely restated the view that ozæna was secondary to chronic suppuration in these cavities This view has been more recently supported by numerous writers particularly Grünwald and is to the effect that both diagnosis and treatment should recognise the primary character of the septic processes in one or other of the accessory sinuses of the nose The opposite view however, is not without its supporters and Dr S Wetterstad now brings forward[1] his own extensive experience of the disease to prove that the involvement of these sinuses in ozæna is secondary when it does occur, and is often absent In the recent literature of ozæna he has found 16 cases in which careful post mortem examinations were made in 8 of these the accessory sinuses of the nose were normal, in 8 inflamed Examining over 1100 records of obduction in cases of all sorts, he finds that one or more of these sinuses showed signs of inflammation in no less than 31 per cent of the patients Hence, he argues, it is likely that the connexion between ozæna and infection of the nasal sinuses is commonly accidental, and the infection itself often a terminal event in cases where it does occur He also points out the difficulty of understanding how it is that an atrophic process like ozæna can be set up by infection from an inflamed nasal accessory sinus in view of the fact that such infections are common and habitually do give rise to hypertrophic inflammations of the nasal mucosa Again, he considers that the hereditary and familial character of ozæna is in favour of its primary nature, and he emphasises the importance of careful examination of every member of an ozæna family with the construction of the family tree, giving two such trees of his own investigation The second of these, embracing four generations and 40 individuals, comprises 9 cases of ozæna and 12 of atrophic rhinitis, with a negative Wassermann reaction in the three generations in which it was examined Finally, Dr Wetterstad states that he has long been on the look out for a case of inflammation of a nasal sinus leading to ozæna, but has never yet met with one On the other hand, in 8 out of 88 patients observed by himself he has seen ozæna lead to a secondary infection of one or more of the accessory sinuses He also considers it possible that both are due to a single process, sinusitis ozænosa, producing a fluid secretion in the accessory cavities of the nose infected, but a dry, crusted, and offensive secretion from the nasal mucous membrane

EFFECTIVE AND INEFFECTIVE INSECTICIDES

SOME interesting experiments have been undertaken by Professor Aldo Castellani, on service in the military hospitals at Uskub, Serbia, and Dr Thomas W Jackson, acting director of the American Red Cross Sanitary Commission in the same city, as to the efficacy or worthlessness of substances used as insecticides Their conclusions will prove of practical value to all concerned with hospital management and the care of crowded wards or institutions In regard to solid and liquid insecticides the substances which they have found to be deleterious to body lice are in the order of their efficiency kerosene, vaseline, guaiacol, anise preparations iodoform, lysol cyllin and allied preparations, carbolic acid solutions, naphthalene, and camphor Pyrethrum, according to these investigators, has a very feeble action on lice, while boric acid, sulphur, corrosive sublimate and zinc sulphate, when used in powder form, have apparently no action whatever As regards bed bugs kerosene, they think, is the best insecticide Next to it comes guaiacol, one of the most active substances they have tried Substances which are powerful licecides may have according to their experience, very little or no action upon bed bugs and vice versa. Iodoform, for example, kills lice within 10 to 15 minutes, but it has practically no deleterious action on bed bugs which may live for more than 24 hours when exposed to it Iodoform has also very little effect on fleas On the other hand, pyrethrum has a much more powerful action on bed bugs than on lice In the opinion of the investigators the best insecticide powder for use against lice on a large scale, as among troops and prisoners, is naphthalene This substance, they state, has a lower licecide action than kerosene, guaiacol, iodoform, and anise preparations, but it has a less displeasing odour than the first three named and is cheap In stored blankets and clothing it is also of considerable use, as frequently lice are found upon the blankets *laid by throughout* the summer Naphthalene is further *useful for* its well known deterrent action upon moths The *investigators* finally suggest that for the better class of patients a *menthol powder* is to be preferred to naphthalene *in practice*, as its odour is not displeasing, while it *is repellant* to *mosquitoes*, as well as to lice and fleas It is further pointed out that such a powder is *especially* useful in summer and in hot countries, as it has a cooling effect on the skin and often prevents prickly heat[1]

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[1] T [illegible] Christiania 1915 xxxv., 97

ANTHRAX IN THE SHAVING BRUSH

A SOMEWHAT disturbing account of some cases of anthrax in man traceable to infected shaving brushes appears in our columns this week Suspicion fell upon a shaving brush in the first instance because at the post mortem examination *it was noted that the small local* lesion came well within the individual s shaving area which covered a larger ground than usual The clue was *followed up and the brush was bacteriologically examined*, with the result that it could be definitely stated that it was infected with anthrax Further inquiry showed that other shaving brushes were grossly infected Subsequent experiments showed that the infection could be removed to a large extent by thorough washing but this process would not appear to give absolute security It is reassuring to learn that on the facts becoming known prompt action was taken to secure, so far as possible the withdrawal of the brushes from the market But the circumstances call for a very thorough inspection of the factories where these brushes were made and careful inquiry, no doubt, will follow as to the source of the infected hairs used for the purpose

THE BORDET-GENGOU REACTION IN ECHINOCOCCAL DISEASE

Dr L C Zapelloni has given in *Il Policlinico* for 1915 (Surgical Section) (Nos 7, 8 9, 10, and 11) the results of his investigations over a period of five years on the fixation of the complement in all the cases of echinococcal infection admitted into the Umberto I Hospital and of many of those occurring in the other hospitals at Rome He also gives an extensive analysis of researches in the same field of study and reported in the literature of the subject during the years 1906 to 1914 and the results of the control experiments made by himself The number of cases examined for diagnostic purposes and prior to any operative interference was 60 of those examined subsequently 54 and of those free from echinococcal disease 167 In addition there were in the cases reported by others about 550 in the first group about 200 in the second and more than 1600 in the third These large numbers afford ample material for estimating the fundamental points of practical and theoretical value of the reaction The details of the test are described minutely by the author, and the reactions showed that there *exist* in the blood of patients suffering from this disease specific antibodies of the amboceptor *type, and they* constitute one of the most satisfactory clinical *applications* of the *Bordet* Gengou principle The *reaction* was, *in fact* positive in 93 per cent of the cases examined as a means of diagnosis, whether the echinococcus was of the hydatidosus or multilocularis variety whether the parasites were living or dead in whatever organs they were situated and whether the serum was taken during life or after death The test also proved *of* value in showing the amount of antibodies present in the serum examined, and in this respect it is interesting to notice that the amount varied not in relation to the size of the hydatid cyst but rather with the conditions which facilitated or hindered the passage from the cyst into the circulation of substances with antigenic properties In fact, such conditions as calcification of the pericyst and prolonged suppuration existed in those cases which gave a negative reaction (7 per cent) As regards specificity the reaction was always negative when hydatid infection was absent, even cases affected with closely allied *taenia* responded negatively Moreover, in 0 25 per cent of reported cases where the reaction was falsely positive the result may be referred to some possible error of technique or to a real infection which was clinically inappreciable Immediately after operation *the reaction* was *more intensely positive* but the hydatid antibodies disappeared after one to two weeks or more After six months the reaction was usually negative The practical value of the test is the more evident when compared with the results of others such as eosinophilia and precipito reaction the *former being present in only* 60 per cent of the cases

At the next meeting of the Surgical Section of the Royal Society of Medicine on Feb 2nd at 5 30 P M, Dr F Hernaman Johnson will read a paper on the *Use of Condensers* and the Diagnosis Prognosis and Treatment of Nerve Lesions and give a demonstration

The next meeting of the Medical Society of London will be held on Monday Jan 17th when a discussion on "Gunshot Wounds of the Chest will be introduced by Colonel Sir John Rose Bradford F R S R A M C and Captain H Morriston Davies R A M C Lieutenant Colonel Hale White R A M C and others will take part in the discussion Fellows and others desirous of taking part in the discussion are requested to communicate with the honorary secretaries or the registrar 11 Chandos street W

THE LATE LORD ARMITSTEAD AS A HOSPITAL BENEFACTOR —At the [illegible] of the Dundee [illegible] £10 [illegible] £ [illegible]

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[1] [illegible]

SANITATION IN BILLETS AND CAMPS

BY ADAM WHITE, M B , CH B , D T M & H EDIN , D P H. CAMB ,
LIEUTENANT R.A.M C (T) OFFICER COMMANDING SANITARY SECTION 2 1ST NORTH MIDLAND DIVISION

BILLETS

As the billeting of troops is a matter which brings the civil and military authorities into specially close relationship and as considerable bodies of soldiers are liable to be quartered in billets from time to time the subject of the sanitary supervision of such abodes requires the earnest consideration of those charged with the conservation of the public health in general

The practice of billeting troops in private houses is a very ancient one, and references to it are found in petitions to the Crown in the Tudor and Stuart periods, in the Petition of Right (1628), and in the Bill of Rights (1689) To come to more modern times, the Army Act of 1909 provided that in the event of the Territorial Force being called up, the Crown should have power by the promulgation of an Order in Council, to declare that a state of emergency had arisen necessitating extensive billeting operations The relative Order in Council was made on August 4th, 1914

In pursuance of this Order any general or field officer in any part of the United Kingdom may issue a billeting demand upon the civil authority of the district in which he desires to have troops billeted In practice these operations are generally initiated through the agency of the police Occupiers of licensed premises, of public buildings and private dwelling houses, of warehouses, barns, and stables, as well as owners of unoccupied premises, are liable to provide billets But it is expressely enacted that the convenience of the various persons liable must be considered, and any person who believes himself aggrieved may have recourse to a court of summary jurisdiction

Varieties of Billets Accommodation in Various Areas

Speaking generally, we may say that there are three varieties of billet, viz. —

1 The soldier is provided with lodging, attendance, light (the specified illuminant being candles), fires, suitable utensils for cooking his rations, and also with sundries such as salt, &c Rations in kind are provided by the military authorities, or a money allowance in lieu of rations is issued to the soldier who then buys his own food The price paid for this form of billet is 9*d* for one soldier and 6*d* for each additional soldier It is found in practice that all cooking is done for the soldier by the housewife, although it is not incumbent upon her to undertake this duty Perhaps her well recognised readiness to play the role of cook may be explained in part by the chances of material gain which will accrue and in part by a quite understandable desire to save herself the trouble of cleaning up her kitchen after its use by those who have little experience in the culinary art

2 The soldier is provided with lodging &c and [illegible] meals The price for lodging and attendance is the same as that specified above, the meals [illegible] paid for according to a tariff

3 In this form of billet the men are put up in [illegible] houses and other buildings and it is [illegible] roof which is provided For this bare accommodation the sum of 1*d* per night per man is paid

The number of troops which a given area can accommodate or absorb is generally calculated as being so many per unit of population, but naturally the actual figure varies much with the character of the houses in the area and according to the economic status of the inhabitants and the industries which they carry on In addition, the presence or absence of absolute or relative overcrowding has an important bearing upon the subject It is generally held that billets with subsistence can be provided for a period of one week in the proportion of two soldiers to one of population, but in areas which have been war swept subsistence will be specially difficult to obtain Billets without subsistence can as a rule, be obtained in the case of rich agricultural districts on a basis of 10 men per inhabitant, and in the case of good class industrial towns on a basis of five to six men per unit of population As the density of population increases, the absorbing capacity naturally diminishes, and the figures quoted will be found to be impossible in areas in which the population is closely aggregated and in which a poor class of house is the rule

Sanitation in Billets

So far as sanitation is concerned, the two varieties of billet first named may be considered together When placed in these billets the soldier is living under somewhat similar general conditions to those obtaining in the case of the ordinary lodger or boarder, and he will be subjected to the same risks and vicissitudes There is a general tendency to overcrowd billets This is due partly to a desire on the part of the men to be with their friends and partly to the wish of the commanding officer to keep his personnel together as much as possible It is essential that this tendency should be counteracted, and it may be stated that 40 square feet of floor space should be regarded as a minimum in the sleeping room Taking the effective height of the room as being 8 feet, the above allowance of floor space will give a cubic allowance of 300 odd feet On account of the modesty of this requirement of air space it is essential that the rooms occupied should be well ventilated, and for this reason no rooms in which the windows do not open at least at the top and to a sufficient extent should be used for billeting purposes

As it is in the best interest of all concerned to conserve the health of the troops, every possible discretion should be exercised by those responsible for the selection of billets Information regarding houses which for any reason are unsuitable for the reception of soldiers should be obtained from the civil authorities or from the responsible officers of divisions which have previously occupied the area, and such houses should be sedulously avoided Houses which already have their full complement of inhabitants houses in which cases of infectious disease exist, houses the inhabitants of which are notoriously uncleanly or otherwise undesirable, and houses in which the general sanitation is below par come within this category

In the case of the third named variety of billet the conditions met with are altogether unusual in that the men are placed in domiciles which are totally unfurnished and which were intended to house a number of inmates much less than the number of soldiers placed in them for billeting purposes For example, we may have a house which under ordinary circumstances would be called upon to contain 10 or 12 persons used for the purpose of billeting 30 or 40 soldiers In such a case as this a severe strain is placed upon the kitchen, lavatory, and water closet accommodation

Although the commander of every unit is responsible to superior authority for the sanitary condition of any area which his unit may occupy, and although officers are enjoined to visit the billets of their men at irregular intervals at least once by day and once by night, it is highly desirable that all houses used as billets should be systematically inspected and supervised by the officer commanding the Divisional Sanitary Section As soldiers when living in billets are in more intimate domestic relationship with the civil population than is the case in other methods of quartering, it is of great importance that the local medical officer of health should have opportunities afforded to him for exercising his general public health functions In connexion with the inspection and supervision of billets we may now briefly consider some of the more important points which demand attention

Inspection and Supervision of Billets

General cleanliness of billets is absolutely essential for the prevention of disease and for the maintenance of military discipline Great care should be taken to ensure that the premises are kept thoroughly clean and tidy All bedding should be taken out and exposed to the fresh air at least every other day, and precautions should be taken to ensure the earliest possible detection of verminous infestation The rooms occupied, if uncarpeted, should be scrubbed twice per week, and oftener when the weather is wet The men themselves should undertake this work

When making inspections attention should be paid to the state of the cooking utensils, as their condition is a useful index of the general condition of the household in the matter of domestic cleanliness In addition the available cooking facilities and the accommodation provided for the storage of food demand attention Generally speaking, the cooking arrangements are quite satisfactory in the majority of houses, but it is unfortunately the case that the same reassuring statement cannot be made with reference to the food stores of the average house

When men are receiving their rations in kind (which is the most common method of rationing adopted) it is seldom that more than one day's rations are issued at once so that there is no great amount of food on the premises at any one time But even admitting that this is true, it is undoubtedly the case that when three or four men are billeted in the average four roomed occupied house, or when 30 or 40 men are quartered in an empty house the larder accommodation is severely taxed In both cases great care should be taken to see that the available food storage space is used to the greatest possible advantage, and that miscellaneous domestic articles are not allowed to encroach upon a part of the house which is not intended for their reception In the case of the empty house billet something may be done to ensure proper housing of the meat by the provision of improvised meat safes These can be readily constructed from wooden bars and fly proof wire gauze

Disposal of Garbage

The provisions for garbage removal should be carefully inspected In many small towns suitable receptacles are not provided and the refuse is not removed at sufficiently frequent intervals These defects should be remedied as far as possible

The latter condition (that of insufficiently frequent removal) can generally be overcome by methods adopted in consultation with the medical officer of health Nuisance is specially apt to arise from this cause in the case of empty houses which are being used for billeting purposes, as the domestic refuse resulting from the feeding and housing of 40 or 50 men is considerable The difficulty may be rendered somewhat less pressing by teaching the cooks to burn as much of the refuse as the kitchen fire will deal with

While it is not always possible to have the ideal type of refuse receptacle installed, and while it may in many cases be necessary to put up with makeshifts and to improvise from materials which lie to one's hand, an endeavour should be made to have the receptacles of suitable size and shape watertight, and covered

The refuse should be removed at least once every other day, and in the case of the empty house variety of billet the collection should be made every day In small townships with primitive methods of scavenging such regular and frequent collection is sometimes difficult to obtain, but regular and frequent removal should be aimed at and in all possible cases daily removal should be realised Failing efficient scavenging arrangements all garbage should be burnt in some form of incinerator erected in the garden or yard of the house This, of course, cannot be done in densely populated areas but in such areas it is generally not required

Disposal of Excreta

The congregating together in one house of a comparatively large number of men raises difficulties with regard to the disposal of fæces and urine One, or at most two water closets form the complement of the average house, and this provision is often not sufficient when the house is being occupied as a billet Additional accommodation must be provided, and the exact form which this added accommodation will take must vary in different cases

Additional water closets cannot, as a rule be provided and even if it were possible to provide such it is doubtful if this form of closet is the best for the purpose in view for we must remember that the occupation is in all probability to be purely temporary, and moreover a water closet provides temptations for its use as a means of getting rid of materials which it is not in the ordinary course of events, intended to deal with As a rule it may be said that anything in the nature of the conventional earth closet is not a success when this form of convenience is to be used by soldiers

Undoubtedly the best form which this additional accommodation can take is that of a bucket latrine The exact method of working bucket latrines will be discussed later in the remarks relating to camp sanitation Suffice it for the present to say that they should be provided on a scale of 10 per cent of strength The best results are obtained when the buckets are placed in some form of small shed constructed in the garden of the house Most large empty houses which are used for billeting purposes have comparatively large gardens so that little difficulty is experienced in this matter but it may be laid down as a general rule that a house which is deficient in water closet provision and which does not possess sufficient curtilage to accommodate a proper latrine shed should not be used for billeting troops

(To be continued)

MEDICINE AND THE LAW

Inquests and the Time Question

An inquest was held recently at Hurstpierpoint upon the body of an elderly lady who, having broken one of her thigh bones by falling in her room on Oct 11th, died on Dec 15th It was stated that the deceased made favourable progress until the middle of November when senile changes began to show themselves followed by death, as mentioned above At the inquest, no doubt quite properly held the coroner was asked within what period after an accident or injury to which a death might be traced it was necessary to hold an inquest His reply was to the effect that there was no limit, and that the fact that no one could be charged with murder or manslaughter more than a year and a day after the occurrence causing the death had nothing to do with the situation adding that he did not think he would hold an inquest if death occurred 20 years after an accident In this last observation we concur, for it would be waste of time and money to hold an inquiry which could have no result in any case so far as the perpetrator of any wrongful act was concerned and which would be unlikely to lead to any definite result of any kind. In most cases the year and a-day limit will be sufficient and the coroner upon such occasions might in his discretion, and unless there were any cogent reasons for holding an inquest decide that the evidence pointing to an "unnatural" death was not sufficient to necessitate an inquiry He would, of course be governed by circumstances by the medical evidence at his disposal, and by the consideration of possible facts rendering an inquest desirable upon public grounds Inquests are generally repugnant to the feelings of surviving relatives and although we have no definite statistics in support of our opinion we believe that coroners do at times exercise a discretion such as we have suggested We cannot for example, believe that a coroner in Cumberland would hold an inquest and bring up witnesses from Cornwall because he was told that the death of a person whose body lay within his jurisdiction was probably accelerated by an accident which the deceased met with in the latter county several years before death actually took place The law may be as stated by the coroner at Hurstpierpoint and may enable an inquest to be held after any lapse of time but we question the necessity for such a course in the public interest except on very rare occasions when the year and a day limit has been exceeded We might also suggest that if such inquests are seldom or never held it is because although the medical evidence might reasonably attribute death to an accident after a considerable time, such a death would not be in the ordinary acceptation of the term an "unnatural" one It certainly would not be a violent death however it was caused It is the safest course for a medical practitioner to report a case which has been under his care when the responsibility rests upon the shoulders of the coroner We refer to occasions where the medical man is satisfied that but for an accident or some such cause his patient would have been alive and medical evidence to that effect can be given

Poor Law Guardians and Vaccination

In Ireland the duty of enforcing the vaccination laws devolves on the boards of guardians and for the past few years as the result of an antivaccination campaign some of the boards have been deliberately avoiding their obligation in the matter As a result the proportion of primary vaccinations to births has fallen in the past ten years from nearly 90 per cent to 65 per cent The Local Government Board has not contented itself with issuing occasional circulars but recently recognising the dangerous conditions that were arising through neglect of vaccination the Board has shown its determination to compel boards of guardians to carry out the law and a few days ago application was made to the King's Bench to make absolute a conditional order of mandamus against the Letterkenny guardians The Lord Chief Justice in the course of his judgment said that the subject of compulsory vaccination came formally before the guardians [illegible] on June 23rd 1913 when a resolution was [illegible] that the matter of vaccination be left an open one [illegible] in case of non vaccination The affidavit of the clerk said that the guardians were informed that they were the final and ultimate tribunal to decide as to the enforcement of the provisions of the Vaccination Acts within their union Whether they were so or not it was for the court now to decide Section 10 of the Act of 1879 provided "that the guardians of any union in Ireland may direct proceedings to be instituted for the purpose of enforcing obedience to the provisions of the Vaccination (Ireland) Acts" The first question for the court was whether Section 10 was or was not mandatory in its operation It provided, it was true, that the guardians "may" direct proceedings to be instituted, and the guardians contended that this language gave them a discretion in the matter But it was settled law that provisions in a statute, though of a permissive character, might impose a duty His lordship cited some cases in support of this canon of construction with the view of showing it was well established and could not now be questioned. His lordship was clearly of opinion that the tenth section of the Act of 1879 was mandatory in its character, and that it was the duty of the guardians—a duty which could be enforced by mandamus—to take steps to enforce the compulsory provisions of the Vaccination Acts within their district His lordship came further to the conclusion that the Local Government Board had a locus standi to interfere where the guardians were not carrying out their duties under the Vaccination Acts, and that it was a proper relator in this proceeding The conditional order for a writ of mandamus should, therefore be made absolute His lordship added, with regard to the question of costs, that as this was the first occasion upon which it had been decided in Ireland that the duty of enforcing the Vaccination Acts was mandatory upon the boards of guardians, and as the Letterkenny guardians appeared to have adopted the course they did in the *bona fide* belief that they legally had a discretion in the matter, he did not think that they ought to be required to pay the costs personally "But" added his lordship "I should like it to be understood that for the future, if the order of the court in the present case stands guardians who persistently refuse to enforce the Vaccination Acts within their districts will do so at the peril of being obliged personally to pay the costs of proceedings to compel them to discharge their duty in this respect" Mr Justice Madden and Mr Justice Boyd concurred

The Second Conviction of an Impostor

Charged under the name of H J Herring, a person without medical qualifications was sentenced to four years penal servitude at a recent sessions of the Central Criminal Court for feloniously giving death certificates in four cases He was also indicted for bigamy The prisoner had personated Mr E Ken Herring a medical man practising in New South Wales, and having represented himself to be Mr E K Herring to a medical agency in London obtained the post of locum tenens during the absence of Mr W J Deighan upon war service Among the patients whom he attended four died and the prisoner signed the certificates of the cause of death He afterwards was for a time locum tenens to a medical practitioner at Cambridge and was arrested while acting in a similar capacity in Lancashire where he had been in two posts as locum tenens He had given death certificates in at least 12 instances besides those mentioned above Inquiry by the police had shown that several years ago he had been sentenced to penal servitude for five years for manslaughter having on that occasion represented himself to be Mr J B Hoffmeister a medical man who in fact was practising in the Isle of Wight He had acted as an assistant to druggists and having been married in 1906 and become the father of four children had gone through the ceremony of marriage with a second woman in 1910 perfectly well knowing that his wife, with whom he was in communication was alive The war affords an exceptional opportunity to dangerous imposters of this class but the fate of this particular scoundrel should be a warning to others Discovery and punishment usually supervene and nine years of penal servitude must weigh heavily against brief periods of success the comparative ease of which must be marred by dread of detection and arrest

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THE ROYAL DENTAL HOSPITAL, Leicester-square W C has received a donation of £2000 from the trustees of the late Miss Hawker Smith

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

The undermentioned have been granted commissions as Surgeons for temporary service in His Majesty's Fleet —John Duffin (dated Dec 14th) Harry Forrest Stephen (dated Dec 17th) Hubert Musgrave Oddy (dated Dec 18th) Arthur Campbell Brown and Francis Temple Grey (dated Dec 21st) *James Bertie Simpson* and George William Marshall Findlay (dated Dec 22nd) Denys Maveson Percival Whitcombe (dated Dec 23rd)

ARMY MEDICAL SERVICE

Major (*temporary Lieutenant Colonel*) John C Bell relinquishes his temporary rank on vacating the appointment of *Assistant Director of Medical Services* (dated Nov 18th)

Temporary Colonel George L Gulland relinquishes his *commission* (dated Dec 11th)

ROYAL ARMY MEDICAL CORPS

Temporary Lieutenant Colonel Sir Ronald Ross K C B, relinquishes his commission (dated Nov 29th)

Lieutenant Colonel D Macaulay, South African Medical Corps, to be temporary *Lieutenant Colonel* (dated August 11th)

Major Sir Edward S Worthington, C M G M V O to be temporary Lieutenant Colonel whilst Commandant Officers' *Convalescent Home, Cimiez* (dated Nov 1st)

John Charles Grant Ledingham to be temporary Lieutenant Colonel (dated Dec 8th)

Major H Hemsted, South African Medical Corps *to be* temporary Major (dated August 13th)

The undermentioned to be temporary Captains —

Dated Dec 1st Frederick William Twort, Hugh Dickie, Thomas Gillman Moorhead and temporary Captain *George Beley, from the York and Lancaster Regiment*

The undermentioned temporary Lieutenants to be *temporary Captains* —

Dated August 15th William L G Davies

Dated Sept 10th William W Deans

Dated Sept 26th Ernest R G Greville

Dated Oct 1st *David Thomson*

Dated Oct 2nd John R P Allin

Dated Oct 3rd *Geoffrey Hadfield*

Dated Oct 5th *James H* Aikman and William C Jardine

Dated Oct 7th William H Laslett and Malcolm A MacDonald

Dated Oct 10th Thomas Fehily Mark Bates James A Glover, Norbert *Reader*, Wilfred A Macaskie George Jackson, Edgar A Pearson William J Nisbet, and Michael J Murray

Dated Oct 11th Frederick W McMillan

Dated Oct 12th Trevor O Williams

Dated Oct 19th John F Cox

Dated Oct 21st Charles F Kelly David W Reid, Charles H *Thompson*, and Richard Williams

Dated Oct 22nd Trevor R Snelling

Dated Oct 24th Roland R Wettenhall

Dated Oct 28th Martin W Littlewood

Dated Nov 11th John I Russell

Dated Nov 17th John B Fisher

Dated Nov 23rd Basil C Ashton

Dated Nov 24th Crawford Lundie and Walter Amslen

Dated Nov 25th *Frederick* Buick McCarter

Dated Nov 27th Charles A Kenny

Dated Dec 3rd Norman F *Hallows*

Dated Dec 21st Alexander Gibson Cyril Wace and Eric Bellingham Smith

Dated Dec 22nd L W Gemmell

The undermentioned to be temporary Lieutenants —

Dated Oct 14th *James Roberts Boyd*

Dated Nov 15th John Anderson

Dated Nov 27th Edward Sutcliffe John Fansworth Owen David Baker Mawson William Bannerman Harold Pace Gibb Gerald Francis Bird and Cyril Henry Edwards

Dated Nov 28th Cuthbert Edmund Arnold Hedley

Dated Nov 29th Robert Blackie Austin William Ernest Hills Joseph Scott Taggart Thomas Evans David McMurray Dickson and Robert Anderson

Dated Nov 30th Robert Henry Sherard Ian Fraser [illegible] Mackenzie and William Farber

Dated Dec 1st William Bligh James Foster Craik Thomas Christopher *Harley* Robert James [illegible] Neville Henry [illegible] John Farquhar MacLeod Thomas Harley Oliver [illegible] [illegible] William [illegible] Michael [illegible] [illegible] [illegible] Henry [illegible] [illegible] [illegible] [illegible] James William [illegible] Walter [illegible] Jam[illegible]

Padwick John Alban Kendall Griffiths [illegible] Dudley Arthur William Seanor Charles Herman [illegible] Ross William Wrigley Stacey Leslie Muir [illegible] Bent Buckley, Gruner Sowell Thomas Henry [illegible] Philip Verdon Percy Lyndon Moore John [illegible] Jackson Thomas Munn Boly Charles Clark [illegible] Alexander Gordon Peter, *Hugh Lorrie* [illegible] William Wilcox George Donaldson [illegible] Henry Ferguson Walter Crabtree James William Tocher, John Rawlings Rees Geoffrey [illegible] Thomas William Earl Morrison Cyril Harold [illegible] James Aspinall Marsden Hubert Cyril Willoughby [illegible] *Alexander William Allan John Welsh John* [illegible] Miller Thomas Smith William James [illegible] James Strachan Herbert Hargreaves Archibald [illegible] Harold Edward Dyson Francis Percy Young [illegible] Kennedy Edward Hesterlow Arthur Lonsdale [illegible] William *Darlington Harold Oscar* Gough *James* [illegible] Cooke and Robert Graham Brown

Dated Dec 2nd William Bow Tannahill Kent *Pretty, John Ross* and Oswald Vincent Burrows

The undermentioned relinquish their temporary honorary commissions on ceasing *to be employed with* No 7 British Red Cross (Allied Forces Base) Hospital —Dated Dec 7th Lieutenant Colonel W I Miles and Major H H Gill and Captains R G Murray, A F Forester J S Burn and J I Adler

Temporary Honorary Lieutenant B G *Klein* having ceased to be employed with the Welsh Hospital Netley relinquishes his commission

The undermentioned relinquish their commissions —

Dated Nov 8th Temporary Captain Guy A C [illegible]

Dated Nov 24th Temporary Lieutenant [illegible] Matheson

Dated Dec 2nd Temporary Captain William F [illegible]

The undermentioned temporary Lieutenants relinquish their commissions —

Dated Oct 24th David H Collingham

Dated Nov 17th Bernard Francis

Dated Dec 7th Andrew B Douglas

Dated Dec 13th Ninian F M Home Hay (on account *of ill health*)

Dated Dec 22nd *John Hegarty*

Temporary Lieutenant Joseph Brewer is placed temporarily on retired pay on account of ill health (dated Nov 18th)

The undermentioned to be temporary Honorary Lieutenants —

Dated Nov 29th Philip Hever Wells and Eric Go[illegible] Dingley

Dated Dec 1st John Nissen Deacon

Dated Dec 6th George Charles Berg and Charles H Colclough Byrne

Dated Dec 8th Lancelot George Jacob and Sam[illegible] Reginald Prall

Dated Dec 9th William Thomas

Henry Adrian Fitzroy Wilson to be temporary Honorary Lieutenant whilst serving with the British Red Cross Hospital Netley (dated Dec 25th)

Temporary Honorary Lieutenant James P [illegible] having ceased to serve with the British Red Cross Hospital Netley relinquishes his commission (dated Dec 6th)

Overseas Contingents (Canadian Army Medical Corps) [illegible] Ferguson to be temporary Captain (dated Dec 19th)

The undermentioned Lieutenants of the Canadian Army Medical Corps to be temporary Lieutenants —

Dated Nov 23rd Ralph Thomson McLaren [illegible] Hiram Freeman Ernest Samuel Moorhead Alex [illegible] Roberts James Bryce Brown Charles Stuart [illegible] Harry Whittaker Paddell Ernest Lomnel James D[illegible] Shields Archibald Forbes Laird and William Laurie Evans

TERRITORIAL FORCE

Royal Army Medical Corps

South Midland Mounted Brigade Field Ambulance [illegible] Lieutenant Frank Smith to be Captain

Highland Field Ambulance To be Captain [illegible] Benjamin F Alcock and Lieutenant John G [illegible]

Home Counties Field Ambulance To be [illegible] Captain Joseph [illegible] from [illegible] and Lieutenant Millward [illegible] Hay[illegible]

Lowland Field Ambulance [illegible] to be Captain

South Midland Field Ambulance [illegible] James Max[illegible]

[illegible]

South Western Mounted Brigade Field Ambulance Lieutenant John H Cumming to be Captain James Woodman Astley Cooper to be Lieutenant

Southern General Hospital Lieutenant Aubrey Radford to be Captain To be Lieutenants Thomas Sidney Stafford (late temporary Lieutenant R A M C) and Allan Nathaniel Worsley Major R L Rutherford resigns his commission on account of ill health

West Lancashire Field Ambulance The undermentioned Lieutenants to be Captains James P Thierens and William F Young To be Lieutenants Albert Victor Glendenning and Alan Hargrave Pinder

West Lancashire Casualty Clearing Station Duncan Francis Hunter to be Lieutenant

South Midland Casualty Clearing Station Guy Hannah Kirby to be Lieutenant

Western General Hospital Lieutenant Frank Chadwick to be Captain

London Sanitary Company Douglas Porter to be Lieutenant

East Anglian Field Ambulance Lieutenant Saville J Fielding to be Captain

East Lancashire Field Ambulance To be Lieutenants Charles Wainwright Fort and Arthur William Berry

Eastern General Hospital Lieutenant Ernest F Ballard to be Captain

Highland Casualty Clearing Station To be Captains Lieutenant John Alexander Innes and Lieutenant John Dow

Supernumerary for Service with the Officers Training Corps Lieutenant John P Kinloch to be temporary Captain whilst serving with the Aberdeen University Contingent Senior Division, Officers Training Corps

Attached to Units other than Medical Units—To be Captains Lieutenant George J E Trotter and Lieutenant Gerald Stephen Hughes To be Lieutenants James Burnet Smith and James Morrison Orr

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 largest English and Welsh towns with populations exceeding 50 000 persons at the last Census, 6950 births and 5462 deaths were registered during the week ended Saturday Dec 18th 1915 The annual rate of mortality in these towns, which had been 16 7 18·5 and 17 1 per 1000 in the three preceding weeks fell in the week under notice to 15 7 per 1000 of their aggregate population estimated at 18 136 180 persons at the middle of 1914 During the first 11 weeks of last quarter the mean annual death rate in these towns averaged 15·4, against a corresponding rate of 16 1 per 1000 in London. The annual death rate for the week under review ranged from 5 1 in Edmonton 6 6 in Coventry 6·9 in Swindon and 8 1 in Willesden and in Swansea to 20·0 in Liverpool 20 1 in Dudley and Blackpool 20·6 in Bootle, 21·5 in Sunderland, and 21 7 in Leicester

The 5462 deaths from all causes were 492 fewer than the number in the previous week and included 298 which were referred to the principal epidemic diseases, against numbers declining from 373 to 335 in the three preceding weeks Of these 298 deaths 75 resulted from measles, 68 from infantile diarrhœal diseases 65 from diphtheria 60 from whooping-cough 19 from scarlet fever, and 11 from enteric fever but not one from small pox. The mean annual death rate from these diseases did not exceed 0·9 or 0·1 per 1000 less than in the previous week The deaths attributed to measles, which had been 70 93 and 81 in the three preceding weeks fell to 75 and caused the highest annual death rates of 1 1 in Bristol 1 3 in Grimsby and in Swansea 1 8 in Bury 1·9 in Burnley 2·0 in Swindon 3 8 in Leicester and 4 1 in Gloucester The deaths of infants (under 2 years) from diarrhœa and enteritis which had been 125 [illegible] and 103 in the three preceding weeks fell to 65 and included [illegible] in London 6 in Manchester and 5 each in Birmingham and Leicester The fatal cases of diphtheria which had been 72 62 and 74 in the three preceding weeks fell to 65 of which 25 were registered in London and 3 each in [illegible] Trent and [illegible] The deaths attributed to whooping-cough which had been 57 63 and 47 in the three preceding weeks rose to 60 [illegible] deaths [illegible] in London 6 each in Liverpool and West Ham and 3 each in Birmingham Manchester and [illegible] The deaths referred to scarlet fever which had been 3 20 and 2 in the three preceding weeks fell to 19 and included 5 in London and 3 in [illegible] The fatal cases of enteric fever which had been 15 [illegible] in the three preceding weeks were again 11 of which [illegible] in London

[illegible] scarlet fever patients under treatment in [illegible] London Fever [illegible] seven preceding weeks, further fell to 2582 on Dec 18th 245 new cases were admitted during the week, against 318, 278, and 282 in the three preceding weeks These hospitals also contained on the date mentioned 1550 cases of diphtheria, 53 of enteric fever, 25 of measles, and 10 of whooping-cough, but not one of small pox. The 1416 deaths from all causes in London were 132 fewer than the number in the previous week, and corresponded to an annual death rate of 16 3 per 1000 The deaths referred to diseases of the respiratory system, which had been 398, 516, and 438 in the three preceding weeks, further declined to 357 in the week under notice, but were 44 in excess of the number registered in the corresponding week of the previous year

Of the 5462 deaths from all causes in the 96 towns, 243 resulted from different forms of violence and 461 were the subject of coroners' inquests while 1521 occurred in public institutions The causes of 36, or 0·7 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull and in 71 other smaller towns Of the 36 uncertified causes, 9 were registered in Birmingham, 6 in Liverpool, and 2 each in Bootle, St Helens, Preston, and Gateshead

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2,345,500 persons at the middle of 1915 990 births and 888 deaths were registered during the week ended Saturday, Dec. 18th The annual rate of mortality in these towns, which had been 22 7, 22 4 and 18 7 per 1000 in the three preceding weeks, rose to 19 7 per 1000 in the week under notice During the first eleven weeks of last quarter the mean annual death rate in these towns averaged 18·0, against 15 4 per 1000 in the large English towns Among the several towns the death rate during the week ranged from 12 7 in Kilmarnock, 12·9 in Clydebank, and 13 8 in Motherwell, to 26 6 in Perth, 28·0 in Greenock and 28·9 in Falkirk

The 888 deaths from all causes were 47 in excess of the number in the previous week, and included 64 which were referred to the principal epidemic diseases, against 87 and 77 in the two preceding weeks Of these 64 deaths, 24 resulted from measles 14 from diphtheria 11 from scarlet fever, 8 from infantile diarrhœal diseases, and 7 from whooping-cough, but not one from enteric fever or from small pox. The mean annual death rate from these diseases was equal to 1 4, against 0·9 per 1000 in the large English towns The deaths attributed to measles, which had been 29 31 and 24 in the three preceding weeks were again 24 in the week under review, and included 6 each in Edinburgh and Greenock, and 5 each in Glasgow and Hamilton The deaths referred to diphtheria, which had been 15 21, and 19 in the three preceding weeks fell to 14 of which 4 occurred in Edinburgh 3 in Aberdeen and 2 each in Greenock and Kirkcaldy The fatal cases of scarlet fever which had been 15, 11 and 20 in the three preceding weeks, fell to 11, and included 6 in Glasgow and 3 in Aberdeen The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 15 17 and 12 in the three preceding weeks further declined to 8 of which 3 were registered in Glasgow The 7 deaths referred to whooping-cough were 4 in excess of the average in the earlier weeks of the quarter, and included 3 in Glasgow and 2 in Dundee

The deaths referred to diseases of the respiratory system, which had been 322 291 and 211 in the three preceding weeks, fell to 203 in the week under notice, but were 39 above the number registered in the corresponding week of the previous year The deaths from violence numbered 38, against 34 and 17 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 27 town districts of Ireland with an aggregate population estimated at 1 212,350 persons at the middle of 1915 505 births and 516 deaths were registered during the week ended Saturday, Dec 18th The annual rate of mortality in these towns which had been 20·1, 21 8 and 20·0 per 1000 in the three preceding weeks, rose to 22 2 per 1000 in the week under notice During the first eleven weeks of last quarter the mean annual death rate in these towns averaged 18 3 against corresponding rates of 15 4 and 18·0 per 1000 in the English and Scotch towns respectively The annual death rate for the week mentioned was equal to 24·9 in Dublin (against 16 3 in London and 19 1 in Glasgow) 20·0 in Belfast 23 8 in Cork 21·5 in Londonderry 8 5 in Limerick and 22 8 in Waterford while in the 21 smaller towns the mean death rate was 17 3 per 1000

The 516 deaths from all causes were 52 in excess of the number in the previous week and included [illegible] which were referred to the principal epidemic diseases, against 50 and 37 in the two preceding weeks Of these 46 deaths 18 resulted from measles, 10 from infantile diarrhœal diseases, 8 from whooping-cough, 7 from scarlet fever 2 from enteric fever, and 1 from diphtheria but not one from small pox The mean annual death rate from these diseases was equal to 2·0, against corresponding rates of 0·9 and 1 4 per 1000 in the English and Scotch towns respectively The deaths attributed to measles, which had been 10 15 and 14 in the three preceding weeks, rose to 18, of which 11 were registered in Dublin and 7 in Belfast The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 17 12, and 9 in the three preceding weeks were 10 in the week under review, and included 8 in Dublin The fatal cases of whooping-cough which had been 9 11, and 5 in the three preceding weeks, rose to 8, and comprised 4 in Belfast 3 in Dublin, and 1 in Drogheda The deaths attributed to scarlet fever, which had been 10 7 and 4 in the three preceding weeks, rose to 7, of which 4 occurred in Belfast and 3 in Dublin The fatal cases of enteric fever were registered in Dublin and Londonderry and that of diphtheria in Belfast

The deaths referred to diseases of the respiratory system which had been 117, 144, and 122 in the three preceding weeks, were 121 in the week under notice Of the 516 deaths from all causes, 142, or 28 per cent, occurred in public institutions and 11 resulted from violence The causes of 19, or 3 7 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, in the large English towns the proportion of uncertified causes did not exceed 0 7 per cent

Correspondence.

Audi alteram partem"

THE PLACE OF PROSTHETICS IN THE DENTAL CURRICULUM

To the Editor of THE LANCET

SIR,—The General Medical Council s inquiry into the causes of an alleged shortage of dental surgeons has perforce opened up questions as to whether the present curriculum and examination requirements need modification In your annotation in THE LANCET of Dec 4th, 1915, and some cognate remarks in earlier issues you pointedly recognise the fact that an overhauling and tuning up of the educational machine is desirable on other grounds than merely those of an alleged shortage of skilled working hands or the scaring and other damage done by piratical craft You state that the work required of the future dentist "will be more of the character of dental surgery than dental mechanics, and that the curriculum should be amended in accordance The difficulty of properly fitting into a scheme of dental education the plebeian subject of dental "mechanics or prosthetics is hardened by the fact that in all other specialties in medicine instruction or direct interest in the making of appliances has long ago been abandoned and handed over to separate and distinct classes of operatives The construction of dentures is retained in the curriculum as one of the required subjects of study and some plain facts justify this attitude of the authorities even if one excludes what has been done and requires doing in conditions arising out of the present war

My present object is to suggest that there are two directions in which one might look for a better harmonising of the time given to dental prosthetics with the total time period of the curriculum

1 If the results of reducing the former three year period of [illegible] training in prosthetics to two years should seem to justify a further reduction to one year a maintaining of the standard of proficiency reached can be made sure of only by a distinct improvement in the method or scheme of instruction The efficient construction and application of dentures is essentially based upon a knowledge of the forms and normal interactions of the natural teeth, as well as of the cheeks, lips and tongue and the pressure reactions of the oral tissues generally How was that knowledge acquired under the apprenticeship system? In the great majority of cases it was not adequately acquired at all, and in perhaps no case was the degree of knowledge gained anything like commensurate with the time spent—two years, and in many instances a minimum of three whole years The pupil was left to pick up his ideas of natural teeth from various assortments of porcelain teeth that the manufacturer certainly did not offer for pedagogical purposes And if a fortunate pupil here and there was encouraged to look into the natural mouth there was no pretence made of giving a course of instruction, systematic or other Judged by all reasonable tests, the dental schools have had better results from the same two year period of training But even in the schools further progress is damped down by the all pervading traditions of the older and still recognised system of private apprenticeship, under which the study of dental anatomy is not even begun until—*after* at least two years—the pupil is passed on to the hospital school as one fairly competent to construct and apply substitutes for lost natural teeth From a 12 years school experience as an instructor in the technical side of prosthetics, I have solid ground for believing that a systematised study of the relevant facts in morphology and dynamics should be entered upon from the beginning and go on concurrently with the technical exercises This alone should accelerate the student s real progress to an extent equivalent to a gain or saving of at least three to six months on the two years course A sound knowledge of surface anatomy should be insisted upon in any rational scheme of instruction in prosthetics, and the collateral value in all practical work of such an introduction to dental anatomy is quite obvious As the average student learns only those subjects that are scheduled and obligatory, maintenance of the present haphazard system amounts in effect to an actual withholding of knowledge and instruction

2 The practice of delegating the technical or extra oral part of prosthetics to mechanics who are outside the immediate control of dental surgeons is increasing This kind of delegation is justifiable only on the assumption that the dental surgeon is competent to design efficient dentures and to form accurate judgments upon any prosthetic work constructed for him If then, the mechanical training period is shortened on the plea that the dentist need not be an expert technician certain safeguards are called for in order to ensure good prosthetic service for the community To that end the student in prosthetics should have a much larger amount of clinical instruction and experience in which his competence and judgment upon all matters relating to the design and application of dentures would constantly be exercised and tested to the satisfaction of expert supervisors This clinical teaching could be carried as far into the full four years course as might be deemed advisable If on the other hand [illegible] such instruction is to be given by private [illegible] their pupils in private practice it is [illegible] right from all points of view that the pupil [illegible] enter a dental school should [illegible] by an examination There should be [illegible]

forward and a gathering in of loose ends in order that, in the strenuous days ahead, the dentists of this country may continue to hold their position as second to none

I am, Sir, yours faithfully,

D M SHAW,

Instructor and Curator of the Mechanical Laboratories Royal Dental Hospital of London

Leicester-square W C., Dec. 22th 1915

GERMAN MEASLES

To the Editor of THE LANCET

SIR,—Although the substitution of the title epidemic roseola or roserash for this disease, as suggested by Dr Clement Dukes in your issue for Dec 25th, might be desirable, I would suggest that until writers of text-books initiate the practice it is premature to expect the medical profession in general to adopt such a course

I am, Sir, yours faithfully,

Brighton Dec. 27th, 1915 C W HUTT, M D, D P H

A COMBINED PHYSICAL TREATMENT FOR DISABLED SOLDIERS

To the Editor of THE LANCET

SIR,—*Ex Africa semper aliquid novi* In your issue of Dec 25th a humorous letter is published from the East of Scotland Dr T D Luke, of Peebles, very modestly describes himself as "a humble balneologist, yet I venture to suggest that even the most humble balneologist usually knows that in neurasthenic conditions there is all the difference between the application of the ordinary douche and the under water douche or the running water bath I would suggest to Dr Luke that if he made inquiries of the medical authorities at the Grand Palais Hospital in Paris he will find that there is a similar difference between the ordinary hot douche and the hyperthermal *eau courante* treatment, against which he gibes so pleasantly

I am, Sir, yours faithfully,

J CAMPBELL McCLURE

Harley-street W Dec 2[illegible]th 1915

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND

THE WEEK'S SUBSCRIPTIONS

THE subscriptions to the Belgian Doctors' and Pharmacists' Relief Fund received during the week have been as follows —

	£ s d		£ s d
Per [illegible] L D [illegible] [illegible] Dr C J [illegible]	0 3 6	Balance of Fund raised by medical men of Mansfield and neighbourhood to give [illegible] to a Belgian family who have now returned to Belgium (per Dr C [illegible])	8 1 2
Dr [illegible]	1 0 0	Dr [illegible]	0 10 6
[illegible]	5 0		
Dr G D H [illegible]	1 0 0		

Subscriptions to the Fund should be sent to the treasurer of the Fund Dr H A Des Voeux, at 13 Buckingham-gate London S W and should be made payable to the Belgian Doctors and Pharmacists Relief Fund crossed Lloyds Bank Limited

The War

THE CASUALTY LIST

THE following names of medical men appear among the casualties announced since our last issue —

Died of Wounds

Colonel E O Wight, R.A M C, Assistant Director of Medical Services, with the 49th division

Lieutenant O G Maginness, attached to the Royal Field Artillery, was educated at St Bartholomew's Hospital and received his qualification in 1913 Prior to the war he had an appointment in H.M Dockyard, Pembroke Docks

Wounded

Lieutenant J Campbell, R A M C

Lieutenant A C Edwards, R A M C, attached to the 4th Yorks Light Infantry (T F)

Lieutenant F G Foster, R A M C

Captain C A Bernard, R A.M C, attached to the 4th York and Lancaster Regiment (T F)

Captain J S Hall R A.M C, attached to the 5th York and Lancaster Regiment (T F)

Captain A L Shearwood R A M C

THE CENTRAL MEDICAL WAR COMMITTEE MEDICAL ENROLMENT

Compulsory military service need not affect the position of members of the medical profession, as the arrangements made by the Local Medical War Committees should suffice to meet all the demands of the medical service of the army Full details of the plan of the Scottish Medical Service Emergency Committee are given below, and the details of the method of procedure in England and Wales, which it is hoped to announce next week, will probably be on the same lines Medical men in England and Wales who have not yet enrolled should at once do so through the Local Medical War Committees, which are in direct communication with the Central Medical War Committee for England and Wales This Committee will give to each applicant a certificate of enrolment It has arranged the grouping of members, and with regard to the order in which individuals should be called on for service it will consider, in coöperation with the Local Medical War Committees, the special difficulties of any individual practitioner On any point of personal difficulty medical men in England and Wales are invited to communicate direct with the secretaries, 429, Strand, London, W C

The Central Medical War Committee has been actively engaged working at certain of the problems which have been lately discussed in Parliament and the daily press in connexion with the demands made by the War Office upon the members of the civilian medical profession As might have been expected, the principal difficulties arise in connexion with the position of the panel practitioners who are under contract to discharge certain duties, and upon whose services the National Health Insurance Commissioners naturally desire to exercise their lien Much detailed information is in the hands both of the Commissioners and the executive subcommittee of the Central Medical War Committee as to the number of general practitioners compared with population in the different administrative areas, and the result of coöperation will certainly smooth away some of the difficulties which are only too apparent These depend mainly upon the fact that the number of medical practitioners in industrial areas under the ordinary conditions of peace is no more than is reasonably necessary to carry on the average work of these areas Yet many of these practitioners have gone to the war, and more are urged to do so

SCOTTISH MEDICAL SERVICE EMERGENCY COMMITTEE

This Committee has now set out a medical recruiting scheme for 1916 Some months ago, by desire of the various professional executives in Scotland, the Committee undertook the duty of bringing under the notice of practitioners the need of the army for more medical men At the request of the War Office the Committee agreed further to deal with applications by practitioners for commissions in the Royal Army Medical Corps The outlines of its policy, and the procedure which it was proposed to follow, were set out in a Memorandum of June 28th last, a copy of which was sent to all Scottish practitioners The plans so laid down, which were indicated in THE LANCET,[1] were carried out, and a satisfactory response was made by the profession to the calls upon them Since the period in question, however, there has come into being the general recruiting scheme promoted by Lord Derby, which has impressed all men of military age with an increasing sense of their obligations towards the country, and the Committee has been in consequence requested by the Director General of Army Medical Services, with the concurrence of Lord Derby, to continue and expand its work in such a manner as to form a link with the general arrangements of the recruiting scheme The statement of the Committee in view of the new circumstances runs as follows —

It is intended that the duty of dealing with members of the medical profession in Scotland, so far as the medical service of the army is concerned, shall subject to the instructions of the Director General, continue to be discharged by us, and we are authorised to state that medical men who have been approached by agents of local recruiting organisations on the ground that they are of military age under Lord Derby's scheme for the lay population, should apply to us for guidance

In drawing up a new scheme to meet these new conditions, we require in the first place to ascertain what service or services each practitioner resident in Scotland will be prepared to render if called upon The War Office has decided (1) that no man under 45 years of age will be employed as a commissioned officer in the Army Medical Service unless he undertakes general service obligations for a year, and is found to be physically fit for duty at home and abroad, and (2) that no man over 55 years of age will be accepted for home service In accordance with this decision practitioners are divided into three groups and the services appropriate to each group are noted in the following schedule —

Group	Age	Service
A	Under 45	Lieut R A M C (general service)
B	45 to 55	Lieut R A M C (home service) Part time home military work Locum tenens away from home (for practitioner absent on service) Part time home civil work (in carrying on practice or part of practice of neighbouring practitioner absent on service)
C	55 and upwards	Part time home military work Locum tenens away from home (for practitioner absent on service) Part time home civil work (in carrying on practice or part of practice of neighbouring practitioner absent on service)

As regards these services, attention is drawn to the enclosed registration form which should be filled in by all practitioners resident in Scotland who do not hold a commission in a branch of the Royal Army Medical Corps or in the Medical Department of the Navy As it is our duty not only to obtain applications for commissions but also to safeguard the interests of the general public by preventing undue depletion of any district, offers by practitioners to serve with the army or to act as whole time locum tenentes will be held as subject to the condition that arrangements can be made to have their present civil work carried on during their absence

In organising medical effort throughout Scotland generally we propose to act as heretofore in coöperation with the Local War Committees which we have recognised for each division of the British Medical Association When the results of our registration inquiry have been ascertained and collated we shall confer with these Local Committees and determine the number of practitioners who should be expected to go on service from each area The Local Committees acting on our instruction, will, after timeous notice, as occasion demands, call upon selected practitioners to give the service appropriate to their age group

In making a call for whole time military service the Local War Committee will issue to practitioners the Army Form of Application for a Commission in the Royal Army Medical Corps, and these forms when filled in should be returned to the secretary of the Local War Committee, and the subsequent arrangements should be made through him In making calls for other services the secretary of the Local War Committee will provide practitioners with all necessary information These calls which will be successive, will begin to be made in the month of January, 1916 Precise dates for calls succeeding the first cannot now be stated We shall, in instructing Local Committees be guided by our knowledge of the needs of the army as intimated to us from time to time by the Director General

This statement of the Committee concludes with an intimation that on any question of duty which may arise in consequence of such calls or otherwise, practitioners are at liberty to refer to the Committee as a body duly appointed and empowered to issue letters of excuse Notice to this effect can be given on a form which may be obtained from the secretary Questions of physical fitness or unfitness are expressly excluded from the province of the Committee These can be decided only by a Regular Officer of the Royal Army Medical Corps following an application for a commission as lieutenant Those found physically unfit should offer for one or more of the remaining services in the schedule

The statement is signed by A H F Barbour President of the Royal College of Physicians Edinburgh James Hodsdon President of the Royal College of Surgeons, Edinburgh Ebenezer Duncan President of the Royal Faculty of Physicians and Surgeons of Glasgow, J A Kynoch Dean of the Faculty of Medicine, University of St Andrews, T H Bryce Dean of the Faculty of Medicine University of Glasgow, Theodore Shennan, Dean of the Faculty of Medicine, University of Aberdeen Harvey Littlejohn Dean of the Faculty of Medicine Edinburgh University, John C McVail Deputy Chairman National Health Insurance Commission Scotland Robert Muir Professor of Pathology University of Glasgow T K Monro Regius Professor of the Practice of Medicine University of Glasgow J J Hamilton Chairman Scottish Committee British Medical Association, John Adams Vice chairman Scottish Committee British Medical Association John Playfair President of the Edinburgh Medical Guild John Gordon President Aberdeen Branch British Medical Association, John Stevens Secretary Edinburgh Branch British Medical Association J P Currie Medical Officer National Health Insurance Com mission, Scotland, Norman Walker, Direct Representative for Scotland on the General Medical Council (convener)

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[1] THE LANCET, June [illegible] 1915, p [illegible]

The statement is accompanied by two forms One is to be filled in by practitioners not now holding a commission The other is directed to practitioners already holding a commission when the intimation form should be filled in, either by himself or by some person on his behalf. Either a registration or an intimation form—but not both—should be filled in in respect of each practitioner The appropriate forms, duly filled in, are being received by the secretary, Scottish Medical Service Emergency Committee, Royal College of Physicians, Edinburgh

WORK OF THE RED CROSS

The report of the joint finance committee of the British Red Cross Society and the Order of St John of Jerusalem has just been issued It is a document of which the country should be proud especially as the work it records has been accomplished mainly by voluntary helpers The report deals with the year which ended on Oct 20th, 1915, and shows how more than a million and a half of money has been used economically and beneficently on behalf of our sick and wounded Although for all practical purposes the work of the two societies began on the first day of the war it was not till Oct 20th, 1914, that the societies agreed to work hand in hand under a joint war committee, which during the 12 months under notice has spent £1,864,036 The expenses of management, excluding appeals, have amounted to only 1¼ per cent, or 2¾*d* in the £ on the whole income If the cost of appeals be added it makes the expenses of management 3½*d* in the £ It is interesting to note that on Oct 20th last year the societies had 697 motor ambulances at work, while the total number of vehicles in use was 1301 The following is a summary of the figures relating to the year's work —Hospital stores and comforts handled, £463 455 (cost of handling, 2 96 per cent), spent in France and Flanders (not including motor ambulances), £293,509 spent in Malta and Near East (mainly for Gallipoli) £194,812 spent in Serbia and Montenegro £43,846, spent on 'transport of wounded' (mainly motor ambulances), £615 963, number of motor ambulances, cars, kitchens, &c, at work 1301, spent on hospital trains, £48 097 spent on maintenance of British Red Cross Hospital Netley, £69,758 spent on St John Brigade Hospital Etaples £42 818 spent on King George Hospital Stamford street London £49 153, spent on Calais Enteric Hospital £17 643 spent on hospitals and convalescent homes in Egypt £25,604 spent on Australian Forces in Egypt, £21 054

We regret to record the death in Flanders on Dec 19th last of Colonel Ernest Octavius Wight, M R C S D P H Assistant Director of Medical Services who was killed by a shell while he was helping to extricate some of his motor ambulances from a dangerous position

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GERMAN CASUALTIES —Mr Tennant stated in [illegible] to a question in the House of Commons [illegible] that the casualties [illegible] published in the official casualty [illegible] Saxony Bavaria and Württemberg up to [illegible] amounted to [illegible] Of the [illegible] 216 were killed or had died of wounds [illegible] 130 were prisoners [illegible] had died of disease and [illegible] were [illegible] These figures do not include the naval casualties

WAR SERVICE BADGES —An Army Council Order was issued on Dec 20th last stating the decision to issue armlets (1) to men who presented themselves for service in the army since the beginning of war and up to midnight on Dec 12th, but who were rejected on medical grounds, (2) to men who after midnight on Dec 12th presented themselves for immediate service with the colours and who were rejected on medical grounds Each class will be divided into two categories (*a*) Men who on examination have been certified as medically unfit on account of organic disease, and (*b*) men who have been rejected on account of eyesight or some slight physical defects The men in category (*a*) of each class will be registered, but those in category (*b*) of each class will be attested and passed to the Army Reserve In no case will an armlet be issued to men who are obviously unfit for service in the army, such as those who are totally blind, crippled, or paralytic

DUNDEE UNIVERSITY AND THE WAR.—The annual report of University College, Dundee, states that the war has caused a serious diminution of men students, and it seems that under the pressure which is now being exercised in recruiting none of the men undergraduates, save only those physically unfit or under military age, will be left The war has also seriously affected the finances, and the accounts closed with a deficit of £280 It was estimated that during the current year the fees would show a further reduction

ECONOMY IN BRAINS —The medical profession is not the only one which views with anxiety the waste of brains in the firing line At the conference of headmasters held at the Board of Education on Dec. 22nd and 23rd a resolution was unanimously carried affirming that—

> In the opinion of this conference very grave loss to the country is caused by the employment of young students of exceptional mathematical and scientific ability as subalterns in line battalions

Mr A L Francis M A, headmaster of Blundell's School, Tiverton, who moved the resolution, emphasised the fact that the present war being eminently a war of science, the place for the young man who had a special gift for science, mathematics or mechanics was in the laboratory

THE CRAIGLEITH HOSPITAL CHRONICLE —In the Christmas number Lieutenant Colonel Sir Joseph Fayrer gives some interesting figures of the number of men treated in Craigleith and the other military hospitals in Edinburgh up to and including Nov 23rd last The total number is 12,466 of which 10 564 were at Craigleith, 754 at the Royal Infirmary, 344 at the Deaconess Hospital 109 at the Leith Hospital and 694 at Dalmeny The numbers include men of the Expeditionary Mediterranean Home Service Canadian Australian Belgian, and South African Forces The Home Service furnished the largest number—8327 There were 67 Belgians 57 Canadians and 5 Australians

SERBIAN RELIEF FUND —Reports from Salonika continue to confirm the fact that such hospital staffs as were able to escape from Serbia are stranded there with no immediate opening for useful work. The French are arranging free transport to Ajaccio Corsica where a refugee camp has been established for 2000 Serbians and 4000 other refugees are expected in France This work for the expatriated Serbs takes the place for the present of definite hospital work The address of the Serbian Relief Fund is 5 Cromwell road S W

R A M C MEN IN TRAINING AT EASTBOURNE —The correspondent of the [illegible] Eastbourne gives an interesting account of the 3000 men who are at present training there They form about 6 per cent of the population of the town a proportion large enough to make itself felt and it is recorded of them that their exemplary behaviour renders their presence in the town a source of real pleasure The companies are drawn from all parts of England and there are a few recruits from Scotland Wales and Ireland The day's work begins at 6 55 A M with the roll-call Parades are held at 9 A M and 2 P M and there is a tattoo at 9 30 P M The first parade takes the form of squad drill Swedish drill stretcher drill lectures and route marches On the downs there are many opportunities of hill climbing and after a full morning's drill the men have been known to cover 15 or 16 miles in the afternoon The lectures given deal with such subjects as hygiene and physiology The apparent These depend mainly upon the fact that the number of medical practitioners in industrial areas under the ordinary conditions of peace is no more than is reasonably necessary to carry on the average work of these areas Yet many of these practitioners have gone to the war, and more are urged to do so

SCOTTISH MEDICAL SERVICE EMERGENCY COMMITTEE

This Committee has now set out a medical recruiting scheme for 1916 Some months ago, by desire of the various professional executives in Scotland, the Committee undertook the duty of bringing under the notice of practitioners the need of the army for more medical men At the request of the War Office the Committee agreed further to deal with applications by practitioners for commissions in the Royal Army Medical Corps The outlines of its policy, and the procedure which it was proposed to follow, were set out in a Memorandum of June 28th last, a copy of which was sent to all Scottish practitioners The plans so laid down, which were indicated in THE LANCET,[1] were carried out, and a satisfactory response was made by the profession to the calls upon them Since the period in question, however, there has come into being the general recruiting scheme promoted by Lord Derby, which has impressed all men of military age with an increasing sense of their obligations towards the country, and the Committee has been in consequence requested by the Director General of Army Medical Services, with the concurrence of Lord Derby, to continue and expand its work in such a manner as to form a link with the general arrangements of the recruiting scheme The statement of the Committee in view of the new circumstances runs as follows —

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In drawing up a new scheme to meet these new conditions, we require in the first place to ascertain what service or services each practitioner resident in Scotland will be prepared to render if called upon The War Office has decided (1) that no man under 45 years of age will be employed as a commissioned officer in the Army Medical Service unless he undertakes general service obligations for a year, and is found to be physically fit for duty at home and abroad , and (2) that no man over 55 years of age will be accepted for home service In accordance with this decision practitioners are divided into three groups and the services appropriate to each group are noted in the following schedule —

Group.	Age	Service
A	Under 45	Lieut. R A M C (*general service*)
B	45 to 55	Lieut R A.M C (*home service*) Part time home military work Locum tenens away from home (for practitioner absent on service) Part-time home civil work (in carrying on practice or part of practice of neighbouring practitioner absent on service)
C	55 and upwards	Part time home military work Locum tenens away from home (for practitioner absent on service) Part time home civil work (in carrying on practice or part of practice of neighbouring practitioner absent on service)

As regards these services, attention is drawn to the enclosed registration form, which should be filled in by all practitioners resident in Scotland who do not hold a commission in a branch of the Royal Army Medical Corps or in the Medical Department of the Navy As it is our duty not only to obtain applications for commissions, but also to safeguard the interests of the general public by preventing undue depletion of any district, offers by practitioners to serve with the army or to act as whole-time locum tenentes will be held as subject to the condition that arrangements can be made to have their present civil work carried on during their absence

In organising medical effort throughout Scotland generally, we propose to act as heretofore in coöperation with the Local War Committees which we have recognised for each division of the British Medical Association When the results of our registration inquiry have been ascertained and collated we shall confer with these Local Committees and determine the number of practitioners who should be expected to go on service from each area. The Local Committees acting on our instruction, will, after timeous notice, as occasion demands, call upon selected practitioners to give the service appropriate to their age group

In making a call for whole-time military service, the Local War Committee will issue to practitioners the Army Form of Application for a Commission in the Royal Army Medical Corps, and these forms when filled in, should be returned to the secretary of the Local War Committee, and the subsequent arrangements should be made through him In making calls for other services the secretary of the Local War Committee will provide practitioners with all necessary information These calls, which will be successive will begin to be made in the month of January, 1916 Precise dates for calls succeeding the first cannot now be stated We shall, in instructing Local Committees be guided by our knowledge of the needs of the army as intimated to us from time to time by the Director General

This statement of the Committee concludes with an intimation that on any question of duty which may arise in consequence of such calls or otherwise, practitioners are at liberty to refer to the Committee as a body duly appointed and empowered to issue letters of excuse Notice to this effect can be given on a form which may be obtained from the secretary Questions of physical fitness or unfitness are expressly excluded from the province of the Committee These can be decided only by a Regular Officer of the Royal Army Medical Corps following an application for a commission as lieutenant Those found physically unfit should offer for one or more of the remaining services in the schedule

The statement is signed by A H F Barbour, President of the Royal College of Physicians, Edinburgh , James Hodsdon, President of the Royal College of Surgeons, Edinburgh , Ebenezer Duncan, President of the Royal Faculty of Physicians and Surgeons of Glasgow , J A Kynoch, Dean of the Faculty of Medicine, University of St Andrews , T H Bryce Dean of the Faculty of Medicine, University of Glasgow , Theodore Shennan, Dean of the Faculty of Medicine, University of Aberdeen , Harvey Littlejohn, Dean of the Faculty of Medicine, Edinburgh University , John C M'Vail, Deputy Chairman, National Health Insurance Commission Scotland , Robert Muir Professor of Pathology, University of Glasgow, T K. Monro, Regius Professor of the Practice of Medicine University of Glasgow , J R Hamilton, Chairman, Scottish Committee, British Medical Association , John Adams, Vice chairman, Scottish Committee British Medical Association , John Playfair, President of the Edinburgh Medical Guild , John Gordon President, Aberdeen Branch, British Medical Association , John Stevens Secretary, Edinburgh Branch, British Medical Association J R. Currie Medical Officer National Health Insurance Com mission, Scotland, Norman Walker, Direct Representative for Scotland on the General Medical Council (convener)

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[1] THE LANCET June 2[illegible] 1915 p. 137

The statement is accompanied by two forms One is to be filled in by practitioners not now holding a commission The other is directed to practitioners already holding a commission when the intimation form should be filled in, either by himself or by some person on his behalf. Either a registration or an intimation form—but *not both*—should be filled in in respect of each practitioner The appropriate forms, duly filled in, are being received by the secretary, Scottish Medical Service Emergency Committee, Royal College of Physicians, Edinburgh

WORK OF THE RED CROSS

The report of the joint finance committee of the British Red Cross Society and the Order of St John of Jerusalem has just been issued It is a document of which the country should be proud, especially as the work it records has been accomplished mainly by voluntary helpers The report deals with the year which ended on Oct 20th, 1915, and shows how more than a million and a half of money has been used economically and beneficently on behalf of our sick and wounded Although for all practical purposes the work of the two societies began on the first day of the war it was not till Oct 20th 1914, that the societies agreed to work hand in hand under a joint war committee, which during the 12 months under notice has spent £1,864,036 The expenses of management, excluding appeals, have amounted to only 1¾ per cent, or 2¼*d* in the £ on the whole income If the cost of appeals be added it makes the expenses of management 3½*d* in the £ It is interesting to note that on Oct 20th last year the societies had 697 motor ambulances at work, while the total number of vehicles in use was 1301 The following is a summary of the figures relating to the year's work —Hospital stores and comforts handled, £463 455 (cost of handling, 2 96 per cent), spent in France and Flanders (not including motor ambulances) £293 509 spent in Malta and Near East (mainly for Gallipoli), £194 812 spent in Serbia and Montenegro £43 846, spent on "transport of wounded (mainly motor ambulances), £615 963 number of motor ambulances, cars, kitchens, &c, at work 1301, spent on hospital trains £48 097 spent on maintenance of British Red Cross Hospital Netley, £69,758 spent on St John Brigade Hospital Etaples £42 818 spent on King George Hospital, Stamford street London £49 153, spent on Calais Enteric Hospital £17 643, spent on hospitals and convalescent homes in Egypt £25 604 spent on Australian Forces in Egypt £21 054

We regret to record the death in Flanders on Dec 19th last of Colonel Ernest Octavius Wight, M R C S D P H Assistant Director of Medical Services who was killed by a shell while he was helping to extricate some of his motor ambulances from a dangerous position

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GERMAN CASUALTIES —Mr Tennant stated [illegible] in the House of Commons [illegible] in the official casualty [illegible] 215 [illegible] were reported [illegible] 321 [illegible] were [illegible] the naval casualties

WAR SERVICE BADGES —An Army Council Order was issued on Dec 20th last stating the decision to issue armlets (1) to men who presented themselves for service in the army since the beginning of war and up to midnight on Dec 12th, but who were rejected on medical grounds, (2) to men who after midnight on Dec 12th presented themselves for immediate service with the colours and who were rejected on medical grounds Each class will be divided into two categories (*a*) Men who on examination have been certified as medically unfit on account of organic disease, and (*b*) men who have been rejected on account of eyesight or some slight physical defects The men in category (*c*) of each class will be registered but those in category (*b*) of each class will be attested and passed to the Army Reserve. In no case will an armlet be issued to men who are obviously unfit for service in the army, such as those who are totally blind, crippled, or paralytic

DUNDEE UNIVERSITY AND THE WAR—The annual report of University College, Dundee, states that the war has caused a serious diminution of men students, and it seems that under the pressure which is now being exercised in recruiting none of the men undergraduates, save only those physically unfit or under military age, will be left. The war has also seriously affected the finances, and the accounts closed with a deficit of £280 It was estimated that during the current year the fees would show a further reduction

ECONOMY IN BRAINS —The medical profession is not the only one which views with anxiety the waste of brains in the firing line At the conference of headmasters held at the Board of Education on Dec 22nd and 23rd a resolution was unanimously carried affirming that—

> In the opinion of this conference very grave loss to the country is caused by the employment of young students of exceptional mathematical and scientific ability as subalterns in line battalions

Mr A L Francis M A, headmaster of Blundell's School Tiverton who moved the resolution, emphasised the fact that the present war being eminently a war of science, the place for the young man who had a special gift for science, mathematics, or mechanics was in the laboratory

THE CRAIGLEITH HOSPITAL CHRONICLE —In the Christmas number Lieutenant Colonel Sir Joseph Fayrer gives some interesting figures of the number of men treated in Craigleith and the other military hospitals in Edinburgh up to and including Nov 23rd last. The total number is 12,466 of which 10 564 were at Craigleith, 754 at the Royal Infirmary 344 at the Deaconess Hospital, 109 at the Leith Hospital and 694 at Dalmeny The numbers include men of the Expeditionary Mediterranean Home Service Canadian Australian Belgian and South African Forces The Home Service furnished the largest number—8327 There were 67 Belgians, 57 Canadians and 5 Australians

SERBIAN RELIEF FUND —Reports from Salonika continue to confirm the fact that such hospital staffs as were able to escape from Serbia are stranded there with no immediate opening for useful work The French are arranging free transport to Ajaccio Corsica where a refugee camp has been established for 2000 Serbians and 4000 other refugees are expected in France This work for the expatriated Serbs takes the place for the present of definite hospital work The address of the Serbian Relief Fund is 5 Cromwell road, S W

R A M C MEN IN TRAINING AT EASTBOURNE —The correspondent of the Star at Eastbourne gives an interesting account of the 3000 men who are at present training there They form about 6 per cent of the population of the town a proportion large enough to make itself felt and it is recorded of them that their exemplary behaviour renders their presence in the town a source of real pleasure The companies are drawn from all parts of England and there are a few recruits from Scotland Wales and Ireland The day's work begins at 6 55 A M with the roll call Parades are held at 9 A M and 2 P M and there is a tattoo at 9 30 P M The instruction takes the form of squad drill, Swedish drill stretcher drill lectures and route marches On the latter there are many opportunities of hill-climbing and after a few [illegible] the men have been known to cover 15 or 16 miles in the afternoon The lectures given deal with such subjects as hygiene and physiology The men are taught to stop hæmorrhage and how to deal with fractured limbs Small groups are engaged in bandaging and applying splints So great is the eagerness to learn that the available stock of R A M C manuals has been exhausted Sports clubs have been formed in connexion with the various companies, the games chiefly in favour being football and running There have been football matches with other corps and with school teams When the R A.M C have arranged a fixture the severest weather will not prevent them from an appearance on the field

THE PRINCE GEORGE MOTOR AMBULANCE —A motor ambulance has been presented to the Belgian Field Hospital by readers and friends of the "Children's Story of the War" More than 11 000 children have subscribed to the cost of this ambulance, which the Queen has permitted to be named after Prince George

INTERCESSION DAY —The British Red Cross Society and the Order of St John have arranged that in every church and chapel to morrow (Jan 2nd) prayers will be offered for the victory of our soldiers, and a collection made for the relief and comfort of our sick and wounded at the front

Professor G L Gulland has returned to Edinburgh at the conclusion of his term of service as consulting physician to the troops and hospitals in Malta, and has resumed teaching at the University

Medical News

UNIVERSITY OF OXFORD —The following candidates have been successful in the undermentioned examinations —

Organic Chemistry —G Alfred Brown P Boobbyer W Boone T Brown R Emmons E Liddell W Allan Row T Ryves N Smith H Toms and E Watkins

Anatomy and Physiology —E Crook W Gover O Krige R Roberts G Stone and E Woods

Pathology —J Blamey E Creed L Davies W Dawson G Perkins O Sells and N Sprott

Forensic Medicine and Public Health —A Traill, A. Watts and D Whitcombe

Materia Medica —L Davies and J Walker

Medicine Surgery and Midwifery —G Bowes L Davies, A. East, L. Gameson G Gimlette H Jeffries M Lawrence, H Oddy C Sells A Traill and D Whitcombe

Diploma in Public Health —Part I : E F Butler J T MacManus and R H Vercoe Part II E B Argles T R. Bowen, and E G Brander

UNIVERSITY OF LONDON —At examinations for medical degrees held recently the following candidates were successful —

M D EXAMINATION

Branch I, Medicine —Abraham Solomon Erulkar B S Guy's Hospital

Branch II Midwifery and Diseases of Women —Lilias Margaret Blackett B S (University medal) London (Royal Free Hospital) School of Medicine for Women and Dorothy Cochrane Logan B S University College, Cardiff, and London (Royal Free Hospital) School of Medicine for Women

SECOND EXAMINATION FOR MEDICAL DEGREES

Part I —*Marjorie Back London (Royal Free Hospital) School of Medicine for Women Jacob Brodetsky B Sc. London Hospital *Kathleen Mary Cogan and Doris Marjorie Howard London (Royal Free Hospital) School of Medicine for Women Arthur St George Joseph McCarthy Huggett St Thomas's Hospital Muriel Mercer Kenworthy Jessie Craig Ritchie and Joan Margaret Ross London (Royal Free Hospital) School of Medicine for Women and Ethel Nancy Thomas D Sc University College

* Awarded a mark of distinction

SOCIETY OF APOTHECARIES OF LONDON —At examinations held recently the following candidates were successful in the subjects indicated —

Surgery —A Z Abushady (Sections I and II) St George's Hospital R N Craig (Sections I and II) Durham and Guy's Hospital; C B de Forest (Sections I and II) Michigan W Fox (Section II) Charing Cross Hospital L Kahan (Section I) London Hospital and Lausanne I H Lloyd (Section I) West minster Hospital J S Matthews (Sections I and II) London and University College Hospitals A W North (Sections I and II) Birmingham I H Pearse (Sections I and II) Royal Free Hospital E E Samaraweera (Sections I and II) King's College Hospital and J G T Thomas (Sections I and II) St Mary's Hospital

Medicine —W F R. Castle (Sections I and II) Cambridge and London Hospital R N Craig (Section II) Durham and Guy's Hospital W J Mar (Section I) London Hospital G S Mitchell (Sections I and II) Westminster Hospital A. W Nor (Sections I and II) Birmingham I H Pearse (Sections I an II) Royal Free Hospital T. C Russell (Sections I and II St. Mary's Hospital and R H Yolland (Sections I and II Cambridge and King's College Hospital

Forensic Medicine —W F R Castle Cambridge and Lon Hospital R N Craig Durham and Guy's Hospital G Mitchell Westminster Hospital I H Pearse Royal Fr Hospital, C G G Winter St Mary's Hospital and R H Yolla Cambridge and King's College Hospital

Midwifery —R N Craig Durham and Guy's Hospital I H. Llo Westminster Hospital and I H Pearse Royal Free Hospital

The Diploma of the Society was granted to the following candidat entitling them to practise medicine surgery and midwifery A. Abushady R N Craig W Fox, I H. Pearse and E E Samaraweera.

LONDON SCHOOL OF TROPICAL MEDICINE.— the examination at the end of the forty ninth session of th school the following candidates were successful —

V A Goonetilleke (Ceylon Medical Service), M de Costa T By (West African Medical Service) E J Rowbotham and R J Tat

UNIVERSITY OF EDINBURGH —At the gradu tion ceremonial on Dec 17th, 1915 the following candidat were recommended to receive degrees —

Doctor of Medicine —Edwin Charles Girling George Dun Logan (commended for thesis) Stewart M Naughton (hig commended for thesis) Adelaide Anna Henshaw Will Russell (highly commended for thesis) Charles Parker Stew Vattaparampil Sankara Vallathan and Griffith Jones Williams.

Bachelor of Medicine and Bachelor of Surgery —William Brown (first-class honours), Thomas Frederick Corkill Henry Fothering ham Ferguson George William Marshall Findlay (first-cla honours) Pratul Kumar Ghosh Robert Lancelot Impey Henry Bruce Kirk Andrew John M'Ivor Premral Tramtolral Majmundar Kumud Sankar Ray Arthur John Desmond Rowan. Clement Ings Stockley Guy Melchoir Torrance, Reginald Arthur Warters, James Augustus Williams, Wyndham Williams Tin Po Woo (Ng) Margaret Kirk Jolly Wright, and Peter Hutchison Young.

UNIVERSITY OF DUBLIN TRINITY COLLEGE, SCHOOL OF PHYSIC —At the Michaelmas examinations the following candidates were successful in the subjects indicated —

PRELIMINARY SCIENTIFIC EXAMINATION

Chemistry —Derrick Haughton Gardiner Fishbourne Henry Allman Lavelle John Charles Joseph Callanan William Joseph Hogan, Eric Wallace Harris George Robert Leslie Jordan John Gerard Holmes and Mayo Francis Merrie (equal) Edward Henry Montgomery Jacobus Frederick Van Staden and Samuel John Laverty

Physics —Charles William Parr Thomas Falkland Litton Cary and George Robert Leslie Jordan

Botany and Zoology —John Farnsworth Sheppard Victor George Walker Richard Dominic k Murphy John Gerard Holmes, Derrick Haughton Gardiner Fishbourne Eileen Hilda Dowse Patrick Joseph Healy Albert Victor Foster Harry Cristol Dundon, Edward Henry Montgomery and Patrick Joseph Duggan

INTERMEDIATE MEDICAL EXAMINATION

Part I Anatomy and Physiology —Eric James Lyndon William Frederick McConnell John Benson McGranahan Cecil Keller and William Leech Young (equal) Percival Atkin Dormer Kenneth Greer James Michael Hill Thomas Tabuteau Joseph Posner Daniel McElwee Frederick John Dymoke and Frederick William Godbey (equal) James Arthur William Cullen and Jason Grant Bird

Part II Applied Anatomy and Applied Physiology —Charles Going Ambrose Percy Crowe Parr Margaret Wolfe Patrick Casey and William Joseph Hamilton John Edmund Hill Meta Grace Jackson and Frederick John Dymoke (equal)

FINAL MEDICAL EXAMINATION

Part I Medical Jurisprudence and Hygiene Materia Medica and Therapeutics and Pathology —Andrew Hope Davidson William Frederick Wicht, Philip Augustus Hall William Garde-Browne, Joseph Godfrey Bird Robert William Prichard John Philip Macnamara James Benjamin Taylor Hastings Harley Molloy (Pathology Medical Jurisprudence and Hygiene) Millicent Hamilton Johnstone (Pathology) and Michiel Christoffel Dippenaar (Materia Medica, Medical Jurisprudence and Hygiene)

Part II B A O Midwifery and Gynæcology —Joseph Wallace Bigger Thomas Paul Chapman Robert Clement Burke Ramsay, Clotilda Bayne Boris, Rupert Montgomery Butler Gordon, Francis William O Connor William Garde-Browne Philip Augustus Hall and Charles Lewers McDonagh (equal) and William Lionel Bates.

SPECIAL FINAL EXAMINATION

Part II B Ch Surgery —Geraldine Murphy Herbert Mitchell, Cecil McLaren West, William Fothergill Wilson Cecil Guedalla Sherowitz William Benjamin Walker and Godfrey Bateman and Thomas William Sweetman (equal) Robert Lancelot Vance Roland Harris Graham and Joseph Henry Cranston Walker (equal) David Henry Hall Grosvenor Leyburne Murphy, William Hunt and Arthur George Fisher

Part II M B Medicine —Thomas William Sweetman Herbert Mitchell, Clara Beatrice Marguerite Alderley Cecil Guedalla Sherowitz, Edward Mannin Thomas Edward Beatty Roland Harris Graham William Hunt Arthur George Fisher and Maurice Bayliss King

Part II B A O Midwifery and Gynæcology —John Arthur Crook Kidd John Milo Ryan Marie Annotte Hadden Alan Francis Grimbly Louis Blumberg Eileen Gertrude Gwynn Thomas Galvin Roche Edwin Boyers and William Hunt

FINAL EXAMINATION

Part II B Ch Surgery —Thomas William Gerald Johnson George William Doran Thomas Edward Beatty and Francis William O Connor

Part II M B Medicine —Alan Francis Grimbly Edward Lipman Frederick John Murphy Robert Lancelot Vance Esther Violet A[illegible]ley Marie Anne te H[illegible]den and David Henry Hall (equal) Violet Isabel Dease Grosvenor Leyburne Murphy and Francis William O Connor

M D EXAMINATION

Brian Dodwell Crichton and Rev Ernest Edward Lavy

M CH EXAMINATION

Arthur Chance (high marks)

DENTAL EXAMINATIONS

Preliminary Scientific (Chemistry and Physics) —Irene Olive Dorman
Intermediate Anatomy —Francis Spencer Judd

DIPLOMA IN PUBLIC HEALTH

Part I and II —Ra[illegible] Edulji Dastur

THE LEEUWENHOEK MEDAL —Professor H A Lorentz, president of the Dutch Academy, writing to congratulate Surgeon General Sir David Bruce, A M S adds that Leeuwenhoek was a foreign member of the Royal Society and the greater part of his discoveries were first published in the Philosophical Transactions The award is made every ten years and this is the first made to a British scientist the previous laureates being Ehrenberg (1875) Ferdinand Cohn (1885) Louis Pasteur (1895) and Beyerinck (1905)

LEBANON HOSPITAL FOR MENTAL DISEASES —This hospital is situated at Asfuriyeh near Beyrout, Syria, and was founded in 1900 by the late Mr Theophilus Waldmeier Owing to the war the seventh annual report is somewhat belated in its appearance but it shows a record of excellent work For the year ending March 31st 1915 55 men and 31 women were admitted to the hospital. If to this number is added 109 patients who remained in the hospital on March 31st, 1914 the total number of patients cared for in the hospital during the year is 195 The financial report shows a slight increase of receipts from subscriptions though the payments from friends of patients show a fall of £353 The general health of the hospital throughout the year has been good. At the present moment, owing to the war provisions of all kinds are exceptionally high in price while patients are unable to contribute to their maintenance but the work of the hospital is still being carried on under the able direction of Dr H Watson Smith and an English matron As it is impossible to send money direct from London to Beyrout the financial affairs of the hospital are managed for the present by the American Presbyterian Board

MEDICAL SICKNESS AND ACCIDENT SOCIETY —A meeting of this society was held on Dec 17th 1915 at 300 High Holborn Dr F J Allen being in the chair The reports submitted showed that during the month of November the claims for sickness had risen slightly above expectation but that for the whole year so far the total experience was below the total expectation In spite of the congestion of business generally owing to the war it was reported that new proposals received were greater in number than those for the same period in the preceding year The number of additional proposals received had been fairly well maintained. One [illegible] feature noted was the increase in the combined sickness and accident and life assurance contracts issued and the tendency among existing members to avail themselves of the opportunity of increasing their insurances [illegible] the addition of endowment life assurances payable at the age of 60 or previous death The number of claims from members on military service had fortunately been few in comparison with the total number who were serving in the Royal Army Medical Corps and similar forces [illegible] of this item will probably be included [illegible] the next annual general meeting [illegible] The [illegible] avail themselves of the society's insurance against sickness and accident, and any desirous of so doing can obtain all information and a prospectus on application to the Secretary, Medical Sickness and Accident Society, 300 High Holborn.

PRESENTATION TO MR H G BARLING —At a gathering on Dec 22nd, presided over by the Lord Mayor of Birmingham, a presentation was made to Mr H Gilbert Barling, F R C S, Vice chancellor of the University of Birmingham on the occasion of severing his active connexion with the Birmingham General Hospital after 36 years service The presentation took the form of an illuminated address and his portrait in oil colour to be hung in the board room

THE LEAGUE OF MERCY —The annual meeting of the League of Mercy was held at St James s Palace on Dec. 21st, 1915 when Lord Farquhar, who presided read a letter from the King s private secretary in which their Majesties rejoiced that during the 17 years of the League s existence it had distributed no less than a quarter of a million sterling to the hospitals in and around London. Sir Frederick Green the treasurer, said the total income for the year was £19 582, an increase of £6[illegible]2 over the previous year A sum of £14 000 had been given to King Edward s Hospital Fund The list of district totals was headed by Westminster with £1832 more than last year, South Kensington followed with an increase of £1150 Sir William Collins, referring to the rise in the cost of hospital necessities owing to the war said that quinine had gone up from *8d* per ounce to *5s 6d* while aspirin had advanced from *2s* to *48s*, and atropine had gone up by enormous leaps During the meeting Prince Alexander of Teck bestowed the Order of Mercy upon a number of ladies and gentlemen

DEATH OF A VETERAN PHYSICIAN —John Rimington Fothergill M D St And died at his home in Darlington on Dec. 13th in his ninety first year He was the senior magistrate of the borough and was for many years honorary physician to the local hospital He was a great-great nephew of John Fothergill of London, physician and Quaker philanthropist who died in 1780, and his father was John Fothergill M R C S, who left his native Wensleydale to practise in Darlington about 100 years ago John Rimington Fothergill was born just when the world s first passenger train began to run between Darlington and Stockton in 1825 After studying in Edinburgh he joined his father in 1848 and in that year they used chloroform in a case of puerperal eclampsia—probably the first application of anæsthesia to this condition Thirty years later he retired from active practice but continued to act as a consulting physician for another 20 years Dr Fothergill took an active part in the civic philanthropic, and political life of his town remaining a strong Liberal to the end A keen fox hunter in his earlier days he continued to catch salmon in the river Tees until arthritis lamed him when he was about 75

Parliamentary Intelligence

NOTES ON CURRENT TOPICS

British Casualties

MR ASQUITH has furnished the following statement regarding British casualties in all fields of operation up to Dec 9th 1915 —

[illegible]

	Killed	Wounded	Missing	Total
Officers	[illegible] 529	[illegible]	1 [illegible]	16 471
Other ranks	77 [illegible]73	241 [illegible]	52 655	371,517
				3[illegible]7,9[illegible]

D[illegible]

	Killed	Wounded	Missing	Total
Officers	1 667	3 0[illegible]	3[illegible]	5,0[illegible]5
Other ranks	2[illegible]	72 [illegible]	17 1[illegible]	109 510
				114 [illegible]

[illegible]

	Killed	Wounded	Missing	Total
Officers	[illegible]	[illegible]	101	1 6[illegible]5
Other ranks	1[illegible]	1[illegible]	2,515	2[illegible] 9
Total	11[illegible]	[illegible]	[illegible]9 5[illegible]5	2[illegible] 654

Grand total all theatres 52[illegible]

The Establishment of the Army

The House of Commons has authorised an addition of 1,000,000 men to the land forces of the Crown, bringing the establishment up to 4,000,000

Midwives (Scotland) Act

The Midwives (Scotland) Act received the Royal assent on Thursday, Dec 23rd

The Christmas Recess

Parliament has risen for a short Christmas recess The House of Commons will resume on Tuesday, Jan 4th During the debate on the adjournment for the holidays, various points relating to the recruitment of the Royal Army Medical Corps and to the details of its administration were raised Mr TENNANT, the Under Secretary for War, replied to the discussion on these matters

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HOUSE OF COMMONS

MONDAY, DEC 20TH

German and Austrian Medical Men

Commander BELLAIRS asked the Under Secretary for Foreign Affairs how many German and Austrian doctors and so-called German and Austrian Red Cross employees had been allowed to go through our naval blockade under safe conducts to Europe and how many under instructions from the Foreign Office without safe conduct, and what equivalent was obtained from Germany in the number of British subjects released—Lord ROBERT CECIL replied The number of such persons given safe conducts is 86 and the number of those who were to be allowed to pass without safe conducts is 69 I am not aware of the precise number in each category who may have been arrested on the way owing to suspicion of fraud, but the number is not large With regard to the last part of the question, His Majesty's Government have not so far felt obliged to refuse requests made to them on the ground of the Geneva Convention for the free passage of enemy doctors and Red Cross employees returning to their own country from overseas In most cases doctors and Red Cross officials captured or detained by the Germans have been also released But as in some cases they have not done so, His Majesty's Government is considering the advisability of detaining similar German individuals who would otherwise be returned

Hospital Units in the Balkans

Mr ALDEN asked the Under Secretary for Foreign Affairs whether he was able to make any statement regarding the present position of the various hospital units from England and Scotland that had been compelled to leave Serbia —Lord ROBERT CECIL answered Sir Ralph Paget, who is acting for His Majesty's Government in this matter, has succeeded in collecting the members of the British units who had escaped from Serbia at San Giovanni di Medua, from where it is hoped to transport them to Italy Till transport is provided, which I hope will be very shortly, Sir Ralph Paget may be trusted to do all that is possible for the safety and comfort of the units under his charge

Recruits and Minor Physical Defects

Mr BOYTON asked the Financial Secretary to the War Office whether he was aware that a number of proposed recruits were rejected for minor physical defects, many of which could be successfully dealt with in general hospitals, and whether His Majesty's Government would consider the desirability of paying those who offered to undergo operations or treatment at army rates with dependent allowances whilst they were detained in hospital, provided that they had previously attested —Mr FORSTER replied The number of men rejected for physical defects of a kind which could be cured by surgical operations is inconsiderable, and the risk and disadvantages of the course suggested are so serious that I fear I cannot adopt it

Dentists with the Expeditionary Force

Answering Sir A MARKHAM, Mr TENNANT (Under Secretary for War) said There are 43 dentists employed with the Expeditionary Forces in France exclusive of those employed with the Canadian contingent

Uninoculated Officers

In reply to Mr ANDERSON, Mr TENNANT said A commanding officer of any unit would be within his rights and powers in preventing any uninoculated officer from proceeding on active service overseas, because such an officer may, if he contracts enteric fever, be a grave source of danger to his brother officers and the men under his command

Panel Practitioners in England

Sir E CORNWALL asked the representative of the National Insurance Commissioners what was the number of doctors now on the panel in London and in the provinces respectively as compared with the totals on July 1st 1914 —Mr C ROBERTS answered, The figures on July 1st, 1914, are not obtainable without a special return from Insurance Committees, but the figures for January, 1914 which would not differ materially from those of the following July were London, 1400, other English areas 14,600 (including doctors on more than one panel) The corresponding figures of doctors who will be on the panel for 1916 are approximately In London 1440, in other English areas 14,400 These figures include a number of medical men on military service whose names remain on the panel whilst some other doctor or doctors are undertaking to carry out their duties

TUESDAY, DEC 21ST

The Drug Tariff

Mr BOOTH asked the representative of the National Insurance Commissioners whether the Commissioners had asked the London Insurance Committee to administer the new drug tariff for 1916, whether the Committee on Thursday declined to receive a report that they should do so whether a special committee had been appointed to examine further the Commissioners' proposal, whether he could see his way to modify the scheme so as to avoid an increase of staff, and was he aware that it was estimated that at least £4000 additional yearly cost would fall upon London to carry out the larger part of the Commissioners' proposals —Mr C ROBERTS said, in reply The duty of pricing prescriptions has been transferred to Insurance Committees by regulations recently framed in accordance with the recommendations of the Departmental Committee on the Drug Tariff, and it is the statutory duty of Committees to make administrative provision for the purpose of calculating the payments due to chemists under the agreements already entered into for 1916 The Commissioners have been in communication with the Committee as to the arrangements necessitated by this duty which they understand are in course of preparation by the Committee. Committees have already been informed that special provision will be made for meeting any additional expenditure properly incurred by them on this work out of sums released in consequence of the new tariff arrangements Any such estimate as is suggested of the additional cost involved would appear, however, to be in excess of all reasonable anticipation

WEDNESDAY, DEC 22ND

First Eastern General Hospital

Sir F BANBURY asked the Under Secretary of State for War whether the kitchen arrangements in the First Eastern General Hospital were planned for 520 patients and whether they now had to provide for 1500 patients, whether the commandant of this hospital was in charge of two other institutions, and what salary did he receive —Mr TENNANT replied The facts are substantially as stated in the first part of the question The hospital has expanded and outgrown the original kitchen accommodation The question of improving the kitchen arrangements has been taken in hand, and I hope the defects will soon be remedied In the expansion two other section hospitals have been formed which are in the general charge of the commandant of the hospital and administered under him by officers commanding sections The commandant is a colonel in the Territorial Force, Army Medical Service, and draws the pay of his rank.

Medical Missions to Serbia

Mr MILLS asked the Secretary of State for Foreign Affairs whether any list of the doctors and nurses who had left Serbia had been received by His Majesty's Government, and, if so, whether such list would be published —Sir EDWARD GREY wrote in reply No list has been received Our latest information is that Sir Ralph Paget arrived at Brindisi on Dec 18th with 120 members of the medical missions to Serbia

Vaccination Acts in Dublin

Mr NUGENT asked the Chief Secretary to the Lord Lieutenant in Ireland whether he was aware that Dublin soldiers who were fighting in the trenches had recently been prosecuted and convicted in their absence as defaulters under the Vaccination (Ireland) Act, was he aware that if those soldiers had resided in Great Britain they would have been able to avoid the risk of such proceedings by making a declaration of conscientious objection to the vaccination of their children, and whether he will give instructions to boards of guardians in Ireland for the suspension of the issuing of summonses for non vaccination until such opportune time as the law on this subject should in Ireland be made similar to that which obtained in Great Britain and thus conform to the recommendations of the Royal Commission on Vaccination —Mr BIRRELL (in a written answer) replied Legal proceedings have recently been instituted in Dublin against defaulters under the Vaccination Acts The papers did not show whether the persons in default were civilians or whether any of them belonged to the army There are no exemptions from vaccination and it would

most unfair if children were not protected from small pox while their fathers were at the war As regards the latter part of the question, I would refer the honourable Member to a previous reply on the subject

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Epsom Asylum

Replying to Mr TYSON WILSON, Sir JOHN SIMON (the Home Secretary) said that owing to the paramount need for economy the Treasury had felt it their duty to object to a further loan for carrying out the contract for the erection of an asylum at Epsom Negotiations with the contractor were still pending He was informed that none of the blocks could be completed under 12 months apart from lighting, heating, and drainage The question of using them as hospitals for wounded soldiers had been considered by the Army Council but the Council did not think it necessary to complete the blocks for this purpose

Tuberculosis Treatment

Sir EDWIN CORNWALL asked the representative of the National Insurance Commissioners to state the amount contributed under the Act in respect of the treatment of tuberculosis cases in this country in the four years ending March, 1915 —Mr C ROBERTS wrote in reply Subject to some slight adjustment the amount available under Section 162 of the National Insurance Act 1911 in respect of the period July 15th 1912, to Dec 31st, 1914 for defraying the expenses of sanatorium benefit in the United Kingdom is £2,150 000 Further, a sanatorium benefit grant of £100 000 was voted in the supplementary estimates for 1914-15, £50,000 being paid into the special account for credit to the four National Health Insurance Funds and the balance being revoted in the estimates for 1915-16 I may add that these figures do not include sums of £125 000 £180 000, £480 000, and £385 000 voted in the estimates (original and supplementary) for 1913-14 and in the estimates for 1914-15 and 1915-16 respectively as provision for statutory grants under Section 17 of the National Insurance Act 1911, and for special grants towards the cost of schemes undertaken by local authorities or combinations of local authorities with the approval of the departments administering the grants for the treatment of tuberculosis generally

A Leprous German Prisoner

Mr BUTLER LLOYD asked the Under Secretary for War whether he was aware that a German prisoner of war, in an advanced condition of leprosy, had been kept for many months in spite of repeated remonstrances from the officer of the guard of the King s Shropshire Light Infantry, within a few paces of the sentry and guard room at Handsforth, near Manchester, and whether he would take immediate steps to have him removed to a more suitable locality —Mr TENNANT answered Special accommodation has been prepared for this prisoner of war at a hospital at Dartford and he is now being removed there

Mr F HARVEY Would it not be possible to make arrangements to send this prisoner back in the next party of exchanged prisoners?—Mr TENNANT I do not think that would be a good thing to do

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Mr PRINGLE asked the Prime Minister whether civilian doctors up to 45 years of age were being asked to join the Royal Army Medical Corps whether he was aware that doctors already in the service were in many cases performing routine and other duties which could be equally well performed by men who had not a medical qualification and if so whether arrangements would be made to relieve doctors in the service of such duties before further depleting the number of doctors available for the civilian population —Mr ASQUITH answered There is urgent need for qualified medical men due to wastage and the necessity for equipping new units My information does not support the allegation contained in the last part of the question

The Neglect of the Civil Population

On the motion for the adjournment for the Christmas recess

Mr PRINGLE called attention to the employment of medical men in the service of the army and the further drafts upon the civilian doctors which were being made at the present time The depletion of the supply of civilian doctors was becoming a serious matter for the whole civil population of the country and obviously a large number of further doctors would be required with the million men for the raising of whom the House had just granted authority He wanted to know whether the War Office was going to recruit medical men for the new forces on the same scale as they had been [illegible] for the army that had been raised and whether [illegible] were to be used as wastefully and [illegible] at [illegible] of the doctors who [illegible] He would only deal with certain [illegible] At the present time there were ambulances in this country all with a full complement of medical officers, and the great majority of those officers were doing practically no medical work At least their medical work was negligible in quantity The great majority of them had nothing to do but to attend to the feet of recruits That was a wasteful use of the services of skilled medical men These ambulances could be dealt with by a much smaller number of skilled medical men, and if the skilled medical men who were thus being uselessly employed were set free their services would be at the disposal of the civil population, or at least some of them could be withdrawn from their present units and employed for the purposes of the further million men who were to be raised Appeals were now being made in various parts of the country to civilian doctors He knew of one district in London where only ten days ago a meeting of all the medical men was called on behalf of the British Medical Association, and it was there intimated that it was the desire of the War Office that all medical men under 45 years of age should put their services at the disposal of the army If that was done there would be a famine of doctors for the civil population That was a situation which ought not to be allowed to come to pass It was not only in regard to the field ambulances in this country that he had to direct the attention of the Under Secretary for War There was a similar situation in regard to field ambulances abroad It was true that these field ambulances were extremely busy when attacks took place or when our forces had a push against the enemy, but at other times the medical officers attached to these ambulances were largely idle They had no employment With regard to base hospitals the situation was the same There were, in normal times far too many medical officers for the work which they had to do and when a period of hard pressure came the services of the medical men were needlessly taken up with clerical work and with surgical dressings, which could quite well be done by those who had no medical qualifications The sole work of medical men enlisted in the army should be to devote their energies and attention to the care of the sick and the wounded There were many other details upon which the medical organisation was open to criticism He was told on authority which he considered good that there were large numbers of specialists who were now being employed for ordinary medical work All these things constituted a case for inquiry and for reorganisation The large number of civilian doctors who had gone into the army did not take kindly to red tape methods The honourable Member also called attention to the fact that since the beginning of the war there had not been a single meeting of the Medical Advisory Committee

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Mr PRINGLE That is all the worse He did not believe that good results could be attained by consulting men singly

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Mr DOUGLAS HALL said that he must endorse what the honourable Member had said about the uneconomic use of medical men at the front A great many surgeons out there never did anything but administrative work There were many medical men there highly qualified men, who never went near a patient and never went into the operating-room at all They were simply there as clerks to fill up endless forms and to administer the discipline of the orderlies He had been five months at the front and had had to do with a great many hospitals In every hospital there were one or two medical officers who spent nearly all their time in office work The W
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HOUSE OF COMMONS

MONDAY, DEC 20TH

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Commander BELLAIRS asked the Under Secretary for Foreign Affairs how many German and Austrian doctors and so-called German and Austrian Red Cross employees had been allowed to go through our naval blockade under safe conducts to Europe and how many under instructions from the Foreign Office without safe conduct, and what equivalent was obtained from Germany in the number of British subjects released —Lord ROBERT CECIL replied The number of such persons given safe conducts is 86 and the number of those who were to be allowed to pass without safe conducts is 69 I am not aware of the precise number in each category who may have been arrested on the way owing to suspicion of fraud, but the number is not large With regard to the last part of the question, His Majesty's Government have not so far felt obliged to refuse requests made to them on the ground of the Geneva Convention for the free passage of enemy doctors and Red Cross employees returning to their own country from overseas In most cases doctors and Red Cross officials captured or detained by the Germans have been also released But as in some cases they have not done so, His Majesty's Government is considering the advisability of detaining similar German individuals who would otherwise be returned

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Mr ALDEN asked the Under Secretary for Foreign Affairs whether he was able to make any statement regarding the present position of the various hospital units from England and Scotland that had been compelled to leave Serbia —Lord ROBERT CECIL answered Sir Ralph Paget, who is acting for His Majesty's Government in this matter, has succeeded in collecting the members of the British units who had escaped from Serbia at San Giovanni di Medua, from where it is hoped to transport them to Italy Till transport is provided, which I hope will be very shortly, Sir Ralph Paget may be trusted to do all that is possible for the safety and comfort of the units under his charge

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Mr BOYTON asked the Financial Secretary to the War Office whether he was aware that a number of proposed recruits were rejected for minor physical defects, many of which could be successfully dealt with in general hospitals, and whether His Majesty's Government would consider the desirability of paying those who offered to undergo operations or treatment at army rates with dependent allowances whilst they were detained in hospital, provided that they had previously attested —Mr FORSTER replied The number of men rejected for physical defects of a kind which could be cured by surgical operations is inconsiderable, and the risk and disadvantages of the course suggested are so serious that I fear I cannot adopt it

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The Government Reply

Mr Tennant (Under Secretary for War) replied In all the actions that have been taken by the medical authorities in the War Office in the administration of the medical services in the army there have been constant and continuous association and conference with the civil medical services of this country The closest touch has been kept with the civil medical profession, and when my honourable friend complains that the Medical Advisory Committee has not met I really must say once again that it seems a little absurd to criticise the War Office for not having had formal meetings of the Committee when the members of that Committee are meeting the authorities and those responsible for the administration of the medical services of the army day by day and almost hour by hour That does seem to me

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Mr BUTLER LLOYD asked the Under Secretary for War whether he was aware that a German prisoner of war, in an advanced condition of leprosy, had been kept for many months, in spite of repeated remonstrances from the officer of the guard of the King's Shropshire Light Infantry, within a few paces of the sentry and guard room at Handsforth, near Manchester, and whether he would take immediate steps to have him removed to a more suitable locality —Mr TENNANT answered Special accommodation has been prepared for this prisoner of war at a hospital at Dartford and he is now being removed there

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The Needs of the Civil Population

On the motion for the adjournment for the Christmas recess

Mr PRINGLE called attention to the employment of medical men in the service of the army and the further drafts upon the civilian doctors which were being made at the present time The depletion of the supply of civilian doctors was becoming a serious matter for the whole civil population and the country, and obviously a large number of further doctors would be required with the million of men for the raising of whom the House had just granted authority He wanted to know whether the War Office was going to recruit medical men for the new forces on the same scale as they had been recruited for the armies that had been raised, and whether their services were to be used as wastefully and as uneconomically as those of the doctors who were at present serving He would only deal with certain branches of the subject At the present time there were many field ambulances in this country all with a full complement of medical officers, and the great majority of those officers were doing practically no medical work At least their medical work was negligible in quantity The great majority of them had nothing to do but to attend to the feet of recruits That was a wasteful use of the services of skilled medical men These ambulances could be dealt with by a much smaller number of skilled medical men, and if the skilled medical men who were thus being uselessly employed were set free their services would be at the disposal of the civil population, or at least some of them could be withdrawn from their present units and employed for the purposes of the further million men who were to be raised Appeals were now being made in various parts of the country to civilian doctors He knew of one district in London where only ten days ago a meeting of all the medical men was called on behalf of the British Medical Association, and it was there intimated that it was the desire of the War Office that all medical men under 45 years of age should put their services at the disposal of the army If that was done there would be a famine of doctors for the civil population That was a situation which ought not to be allowed to come to pass It was not only in regard to the field ambulances in this country that he had to direct the attention of the Under Secretary for War There was a similar situation in regard to field ambulances abroad It was true that these field ambulances were extremely busy when attacks took place or when our forces had a push against the enemy, but at other times the medical officers attached to these ambulances were largely idle They had no employment With regard to base hospitals the situation was the same There were, in normal times, far too many medical officers for the work which they had to do and when a period of hard pressure came the services of the medical men were needlessly taken up with clerical work and with surgical dressings, which could quite well be done by those who had no medical qualifications The sole work of medical men enlisted in the army should be to devote their energies and attention to the care of the sick and the wounded There were many other details upon which the medical organisation was open to criticism He was told on authority which he considered good that there were large numbers of specialists who were now being employed for ordinary medical work All these things constituted a case for inquiry and for reorganisation. The large number of civilian doctors who had gone into the army did not take kindly to red tape methods The honourable Member also called attention to the fact that since the beginning of the war there had not been a single meeting of the Medical Advisory Committee

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Mr PRINGLE That is all the worse He did not believe that good results could be attained by consulting men singly

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Mr DOUGLAS HALL said that he must endorse what the honourable Member had said about the uneconomic use of medical men at the front A great many surgeons out there never did anything but administrative work There were many medical men there highly qualified men, who never went near a patient and never went into the operating-room at all They were simply there as clerks to fill up endless forms and to administer the discipline of the orderlies He had been five months at the front and had had to do with a great many hospitals. In every hospital there were one or two medical officers who spent nearly all their time in office work The War Office might consider whether it would not be possible to allocate some of these duties to some officer who had not got the high medical skill which officers of the Royal Army Medical Corps possessed He thought that anyone who went out to one of our large bases would be surprised at the number of doctors who at one time were doing no work at all, while other places were suffering for want of doctors He did not know whether that could be avoided, but it seemed to him that there might be some better system for distributing the medical men where they were wanted.

The Government Reply

Mr TENNANT (Under Secretary for War) *replied* In all the actions that have been taken by the medical authorities in the War Office in the administration of the medical services in the army there have been constant and continuous association and conference with the civil medical services of this country The closest touch has been kept with the civil medical profession, and when my honourable friend complains that the Medical Advisory Committee has not met I really must say once again that it seems a little absurd to criticise the War Office for not having had formal meetings of the Committee when the members of that Committee are meeting the authorities and those responsible for the administration of the medical services of the army day by day and almost hour by hour That does seem to me

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HOUSE OF COMMONS

MONDAY, DEC 20TH

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Commander BELLAIRS asked the Under Secretary for Foreign Affairs how many German and Austrian doctors and so-called German and Austrian Red Cross employees had been allowed to go through our naval blockade under safe conducts to Europe and how many under instructions from the Foreign Office without safe conduct, and what equivalent was obtained from Germany in the number of British subjects released —Lord ROBERT CECIL replied The number of such persons given safe conducts is 86 and the number of those who were to be allowed to pass without safe conducts is 69 I am not aware of the precise number in each category who may have been arrested on the way owing to suspicion of fraud, but the number is not large With regard to the last part of the question, His Majesty's Government have not so far felt obliged to refuse requests made to them on the ground of the Geneva Convention for the free passage of enemy doctors and Red Cross employees returning to their own country from overseas In most cases doctors and Red Cross officials captured or detained by the Germans have been also released But as in some cases they have not done so, His Majesty's Government is considering the advisability of detaining similar German individuals who would otherwise be returned

Hospital Units in the Balkans

Mr ALDEN asked the Under Secretary for Foreign Affairs whether he was able to make any statement regarding the present position of the various hospital units from England and Scotland that had been compelled to leave Serbia —Lord ROBERT CECIL answered Sir Ralph Paget, who is acting for His Majesty's Government in this matter, has succeeded in collecting the members of the British units who had escaped from Serbia at San Giovanni di Medua, from where it is hoped to transport them to Italy Till transport is provided, which I hope will be very shortly, Sir Ralph Paget may be trusted to do all that is possible for the safety and comfort of the units under his charge

Recruits and Minor Physical Defects

Mr BOYTON asked the Financial Secretary to the War Office whether he was aware that a number of proposed recruits were rejected for minor physical defects, many of which could be successfully dealt with in general hospitals, and whether His Majesty's Government would consider the desirability of paying those who offered to undergo operations or treatment at army rates with dependent allowances whilst they were detained in hospital, provided that they had previously attested —Mr FORSTER replied The number of men rejected for physical defects of a kind which could be cured by surgical operations is inconsiderable, and the risk and disadvantages of the course suggested are so serious that I fear I cannot adopt it

Dentists with the Expeditionary Force

Answering Sir A MARKHAM, Mr TENNANT (Under Secretary for War) said There are 43 dentists employed with the Expeditionary Forces in France exclusive of those employed with the Canadian contingent

Uninoculated Officers

In reply to Mr ANDERSON, Mr TENNANT said A commanding officer of any unit would be within his rights and powers in preventing any uninoculated officer from proceeding on active service overseas, because such an officer may, if he contracts enteric fever, be a grave source of danger to his brother officers and the men under his command

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Sir E CORNWALL asked the representative of the National Insurance Commissioners what was the number of doctors now on the panel in London and in the provinces respectively, as compared with the totals on July 1st 1914 —Mr C ROBERTS answered, The figures on July 1st 1914, are not obtainable without a special return from Insurance Committees, but the figures for January, 1914, which would not differ materially from those of the following July were London, 1400, other English areas 14,600 (including doctors on more than one panel) The corresponding figures of doctors who will be on the panel for 1916 are approximately In London 1440, in other English areas 14,400 These figures include a number of medical men on military service, whose names remain on the panel whilst some other doctor or doctors are undertaking to carry out their duties

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Mr BOOTH asked the representative of the National Insurance Commissioners whether the Commissioners had asked the London Insurance Committee to administer the new drug tariff for 1916, whether the Committee on Thursday declined to receive a report that they should do so whether a special committee had been appointed to examine further the Commissioners' proposal, whether he could see his way to modify the scheme so as to avoid an increased staff, and was he aware that it was estimated that at least £4000 additional yearly cost would fall upon London to carry out the larger part of the Commissioners' proposals —Mr C ROBERTS said, in reply The duty of pricing prescriptions has been transferred to Insurance Committees by regulations recently framed in accordance with the recommendations of the Departmental Committee on the Drug Tariff, and it is the statutory duty of Committees to make administrative provision for the purpose of calculating the payments due to chemists under the agreements already entered into for 1916 The Commissioners have been in communication with the Committee as to the arrangements necessitated by this duty which they understand are in course of preparation by the Committee. Committees have already been informed that special provision will be made for meeting any additional expenditure properly incurred by them on this work out of sums released in consequence of the new tariff arrangements Any such estimate as is suggested of the additional cost involved would appear, however, to be in excess of all reasonable anticipation

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Sir F BANBURY asked the Under Secretary of State for War whether the kitchen arrangements in the First Eastern General Hospital were planned for 520 patients and whether they now had to provide for 1500 patients, whether the commandant of this hospital was in charge of two other institutions, and what salary did he receive —Mr TENNANT replied The facts are substantially as stated in the first part of the question The hospital has expanded and outgrown the original kitchen accommodation The question of improving the kitchen arrangements has been taken in hand, and I hope the defects will soon be remedied In the expansion two other section hospitals have been formed which are in the general charge of the commandant of the hospital and administered under him by officers commanding sections The commandant is a colonel in the Territorial Force, Army Medical Service, and draws the pay of his rank

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Mr MILLS asked the Secretary of State for Foreign Affairs whether any list of the doctors and nurses who had left Serbia had been received by His Majesty's Government, and, if so, whether such list would be published —Sir EDWARD GREY wrote in reply No list has been received Our latest information is that Sir Ralph Paget arrived at Brindisi on Dec 18th with 120 members of the medical missions to Serbia

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Mr NUGENT asked the Chief Secretary to the Lord Lieutenant in Ireland whether he was aware that Dublin soldiers who were fighting in the trenches had recently been prosecuted and convicted in their absence as defaulters under the Vaccination (Ireland) Act, was he aware that if those soldiers had resided in Great Britain they would have been able to avoid the risk of such proceedings by making a declaration of conscientious objection to the vaccination of their children, and whether he will give instructions to boards of guardians in Ireland for the suspension of the issuing of summonses for non vaccination until such opportune time as the law on this subject should in Ireland be made similar to that which obtained in Great Britain and thus conform to the recommendations of the Royal Commission on Vaccination —Mr BIRRELL (in a written answer) replied Legal proceedings have recently been instituted in Dublin against defaulters under the Vaccination Acts The papers did not show whether the persons in default were civilians or whether any of them belonged to the army There are no exemptions from vaccination and it would

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Mr E HARVEY Would it not be possible to make arrangements to send this prisoner back in the next party of exchanged prisoners?—Mr TENNANT I do not think that would be a good thing to do

Medical Men and Service in the Army

Mr PRINGLE asked the Prime Minister whether civilian doctors up to 45 years of age were being asked to join the Royal Army Medical Corps, whether he was aware that doctors already in the service were in many cases performing routine and other duties which could be equally well performed by men who had not a medical qualification and if so whether arrangements would be made to relieve doctors in the service of such duties before further depleting the number of doctors available for the civilian population —Mr ASQUITH answered There is urgent need for qualified medical men due to wastage and the necessity for equipping new units. My information does not support the allegation contained in the last part of the question

The Needs of the Civil Population

On the motion for the adjournment for the Christmas recess

Mr PRINGLE called attention to the employment of medical men in the service of the army and the further drafts upon the civilian doctors which were being made at the present time The depletion of the supply of civilian doctors was becoming a serious matter for the whole civil population and the country and obviously a large number of further doctors would be required with the million of men for the raising of whom the House had just granted authority He wanted to know whether the War Office was going to recruit medical men for the new forces on the same scale as they had been recruited for the armies that had been raised, and whether their services were to be used as wastefully and as uneconomically as those of the doctors who were at present serving He would only deal with certain branches of the subject At the present time there were many field ambulances in this country all with a full complement of medical officers, and the great majority of those officers were doing practically no medical work At least their medical work was negligible in quantity The great majority of them had nothing to do but to attend to the feet of recruits That was a wasteful use of the services of skilled medical men These ambulances could be dealt with by a much smaller number of skilled medical men, and if the skilled medical men who were thus being uselessly employed were set free their services would be at the disposal of the civil population, or at least some of them could be withdrawn from their present units and employed for the purposes of the further million men who were to be raised Appeals were now being made in various parts of the country to civilian doctors He knew of one district in London where only ten days ago a meeting of all the medical men was called on behalf of the British Medical Association, and it was there intimated that it was the desire of the War Office that all medical men under 45 years of age should put their services at the disposal of the army If that was done there would be a famine of doctors for the civil population That was a situation which ought not to be allowed to come to pass It was not only in regard to the field ambulances in this country that he had to direct the attention of the Under Secretary for War There was a similar situation in regard to field ambulances abroad. It was true that these field ambulances were extremely busy when attacks took place or when our forces had a push against the enemy, but at other times the medical officers attached to these ambulances were largely idle They had no employment With regard to base hospitals the situation was the same There were, in normal times, far too many medical officers for the work which they had to do and when a period of hard pressure came the services of the medical men were needlessly taken up with clerical work and with surgical dressings, which could quite well be done by those who had no medical qualifications The sole work of medical men enlisted in the army should be to devote their energies and attention to the care of the sick and the wounded There were many other details upon which the medical organisation was open to criticism He was told on authority which he considered good that there were large numbers of specialists who were now being employed for ordinary medical work All these things constituted a case for inquiry and for reorganisation The large number of civilian doctors who had gone into the army did not take kindly to red tape methods The honourable Member also called attention to the fact that since the beginning of the war there had not been a single meeting of the Medical Advisory Committee

Mr TENNANT By design

Mr PRINGLE That is all the worse He did not believe that good results could be attained by consulting men singly

Clerical Work in the Royal Army Medical Corps

Mr DOUGLAS HALL said that he must endorse what the honourable Member had said about the uneconomic use of medical men at the front A great many surgeons out there never did anything but administrative work. There were many medical men there highly qualified men, who never went near a patient and never went into the operating-room at all They were simply there as clerks to fill up endless forms and to administer the discipline of the orderlies He had been five months at the front and had had to do with a great many hospitals In every hospital there were one or two medical officers who spent nearly all their time in office work The War Office might consider whether it would not be possible to allocate some of these duties to some officer who had not got the high medical skill which officers of the Royal Army Medical Corps possessed He thought that anyone who went out to one of our large bases would be surprised at the number of doctors who at one time were doing no work at all, while other places were suffering for want of doctors He did not know whether that could be avoided but it seemed to him that there might be some better system for distributing the medical men where they were wanted

The Government Reply

Mr TENNANT (Under Secretary for War) replied In all the actions that have been taken by the medical authorities in the War Office in the administration of the medical services in the army there have been constant and continuous association and conference with the civil medical services of this country The closest touch has been kept with the civil medical profession, and when my honourable friend complains that the Medical Advisory Committee has not met I really must say once again that it seems a little absurd to criticise the War Office for not having had formal meetings of the Committee when the members of that Committee are meeting the authorities and those responsible for the administration of the medical services of the army day by day and almost hour by hour That does seem to me

a charge which it does not lie in the mouth of any honourable Member to make

Mr PRINGLE What is the use of having the Committee?

Mr TENNANT I do not follow the observation My honourable friend says that there ought to be fewer medical men in the field ambulances I hope my honourable friend will recognise that it is not only desirable but essential that there should be a sufficiently strong professional medical element with each field ambulance That must be admitted as a necessity If field ambulances should be happily out of work and at rest, not tending the wounded, then naturally enough the doctors and the professional element are also, as it were, at rest It is a little like the soldiers at the front who have so many days in the trenches and so many days in reserve It is not a very unnatural circumstance or an improper fact that doctors now and again do get that amount of rest I have been in communication with the Army Medical Department recently and have discussed these matters with them I suggested, and the suggestion was received very well by my medical advisers, that during periods of lesser operations the actual professional element might be reduced somewhat further than it is at the present time, so as to allow some of the officers to be more fully occupied with medical cases and so relieve the strain of which my honourable friend complains He complained also and the honourable Member for the Isle of Wight (Mr Douglas Hall) joined in this complaint, that there was a good deal of unskilled work, clerical work, and other duties undertaken by highly skilled and trained medical men which might be done by clerks That has often been suggested and I have made it my business to inquire whether really clerks could do the work suggested I am assured that the filling in of forms, which my honourable friend has called unskilled work, could not really be undertaken, shall I say, by stockbrokers' clerks or bank clerks, because it requires real professional knowledge to deal with them

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he *Chief Inspector of Factories Home Office London S W.*, gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Lytham in the county of Lancaster at Edinburgh (North) and at Edinburgh (South)

Births, Marriages, and Deaths.

BIRTHS

Allan —On Dec 20th 1915, at East Mount Barrow in Furness the wife of E Allan F R C S Edin of a son

Arkle.—On Dec. 21st 1915 at Bentham " West Derby Liverpool to A. S Arkle M.R.C.S and Mrs Arkle a son.

Evans —On Dec 21st, 1915 at Goldington road Bedford to the wife of George Jewel Evans M R C S L.R C.P Lond., of C M S Hospital Hangchow China, a daughter

Gunn —On Dec 23rd 1915 at Melrose House Perth the wife of J T Gunn F R C S Edin. Lieutenant R A M C attached 18th Brigade R.F.A. B E F of a son

Harrison —On Dec 20th 1915, at De Montfort street Leicester the wife of Captain Everard Harrison R A M C (T) of a daughter

Lockhart Mummery —On Dec 21st 1915 at Hyde Park place London W to Cynthia wife of Percy Lockhart Mummery F.R.C S Eng., a son

Longridge.—On Dec 27th 1915 at Oxford Parade Cheltenham the wife of C J Nepean Longridge M D Vict of a son

MacRae.—On Dec. 24th, 1915 at St Peter's Vicarage Devizes the wife of Major MacRae R A M C of a son

Mandy —On Dec 16th 1915, at Quarry House Hythe Kent the wife of P S Mandy M.R.C.S of a daughter

Ollerenshaw —On Dec 22nd 1915 at Palatine-road Manchester the wife of Robert Ollerenshaw F.R.C S Eng Captain R.A M C (T) of a son

MARRIAGES

Bailey—Tennant —On Dec. 22nd 1915 at Holy Trinity Church Lambeth Bernard Francis Bailey lieutenant R.A.M C to Margot eldest daughter of Mr and Mrs David Tennant of Glenconner Kenilworth Cape Colony

Brown—Menzies.—On Dec 20th. 1915 at St Mary Abbots, Kensington Lieutenant L. Graham Brown R A.M.C to Margaret only daughter of Mr Alexander Menzies of Lankat Estate Sumatra, and of Mrs. Stephens of Murrayfield road Edinburgh.

Fleming—McElroy —On Dec. 23rd 1915 at St Charles's Eagle-street W Alexander Fleming F R C S Eng to Sara Marion daughter of Bernard McElroy of Leighcrntain Killala, co Mayo

Messenger—Wood —On Dec. 22nd 1915 at the Church of St Mary the Virgin Yatton Henry Leslie Messenger L.R C P Lond. M.R.C.S L.D.S to Lily younger daughter of Mr and Mrs J G Wood of Westfield Yatton Somerset

DEATHS

Fox.—On Dec. 25th 1915 at Heriot row Edinburgh Charles Henry Fox M D St. And formerly of Brislington, Somerset aged 78 years

Pollock —On Dec. 19th 1915 at Corheath, Dumfries Colonel C F Pollock R.A M.C aged 71 years

N B —*A fee of 5s is charged for the Insertion of Notices of Births Marriages and Deaths*

BOOKS, ETC RECEIVED

Baillière, Tindall, and Cox London
Manual of Anatomy Systematic and Practical, including Embryology By A. M Buchanan M A M D F R.F P S Glasg Third edition. Price 21s net

Blackwood William and Sons Edinburgh and London
Diary of a Nursing Sister on the Western Front 1914–1915. Price 5s. net

Churchill, J and A., London.
Catalysis and its Industrial Applications By E Jobling A.R C Sc B Sc., F C S Price 2s 6d net

Collingridge W H and L., London
Roses and Their Cultivation By T W Saunders, F L.S Price 3s 6d. net
The Order of the Hospital of St John of Jerusalem and its Grand Priory of England By H. W Fincham With a Chapter on the Present Day Work of the Order By W R. Edwards Price 6s net

Hill Publishing Co Pearl street New York and Bouverie street London
Experimental Organic Chemistry By James F Norris, Ph.D Price 5s 3d net
Food Analysis By A G Woodman Price 12s 6d net
American Sewage Practice Vol. I.: Design of Sewers Vol II: Construction of Sewers. By L. Metcalf and H. P Eddy

King P S and Sons Limited London
The Rise of Rail Power in War and Conquest, 1833–1914 By E A. Pratt. Price 7s 6d net

Notes, Short Comments, and Answers to Correspondents

HEALTH AND SANITATION IN CYPRUS

Unusual interest attaches to the Cyprus Blue book report for 1914–15, recently presented to Parliament, in view of what has happened since the outbreak of war It will be remembered that the island came into the occupation of the British in 1878 by virtue of a treaty made between this country and the Porte, under which Cyprus remained nominally part of the Ottoman Empire. In November, 1914, however, on a state of war being declared between Great Britain and Turkey, the former took steps by proclamation to annex the island, which thus became a British possession In October last the English Government made an offer to cede the island to Greece, conditional on the participation of the latter in the cause of the Entente Allies but the proposal came to nothing for the time being, though it may not improbably be revived The Blue-book report has been prepared by Captain C W Orr, Chief Secretary, and a section of it deals with medical and sanitary matters, of which we give the following summary

The sanitary condition and the general health of the island during the year ending March 31st 1915, were satisfactory One case of small pox occurred in Nicosia in April, 1914 but immediate measures of isolation, quarantine, and vaccination were adopted with the result that the disease did not spread and was limited to this one case. In May, however the disease again occurred in a mountain village, Alona, having developed in a woman who had returned from a pilgrimage to Jerusalem, but owing to vigorous measures of isolation there were only four contact cases 7187 vaccinations were performed during the year 341 cases of enteric fever occurred, 8 of which proved fatal The disease continues mild as a rule but there was a severe and sudden outbreak in the month of July in the town of Larnaca, resulting in about 100 cases There were 13 cases of cerebro-spinal meningitis with 8 deaths, as against 25 cases during the previous year There is also a reduction in diphtheria, 8 cases with 3 deaths being reported, as against 21 cases in the previous year Scarlet fever occurred for the first time for many years, there being 6 cases in Larnaca mild in type

The antimalarial campaign, begun in 1913 after the visit of Sir Ronald Ross, resulted in a reduction of malarial cases So far as the campaign was concerned, however, the year was unfavourable the winter being a mild one favourable for the breeding of mosquitoes, which were found living in wells, &c, during the coldest months of the year Exceptionally heavy rains also fell during November and December 1913, and there were heavy and late spring rains in 1914 Notwithstanding these unfavourable conditions, all districts with the exception of Larnaca, which had an increase of 44 cases showed a reduction of the returns of the previous year, the total decrease amounting to 720 cases Generally speaking the disease takes the benign form, pernicious and malignant cases being rarer The mortality is very low, details for those attending out patient dispensaries are wanting, but the returns for diseases and deaths show that there were only 7 deaths out of a total of 355 cases admitted to the hospitals as in-patients—equal to 1·6 per cent

A more extensive spleen census has been made, and much care and interest has been taken by the medical officers in the examination of children A total of 26 941 were examined during the months of October November and December 1914 at the end of the malarial season, of these, 22,799 were found without enlargement 3125 were returned with slight enlargement, whilst 792 and 225 had medium and great enlargement of the organ respectively. These figures give a spleen rate of 15 3, showing a gradual and steady reduction on the rates of previous years.

Under the supervision of the sanitary engineer extensive drainage and other antimalarial measures were carried out in the Larnaca and Famagusta districts Larvicide substances were extensively used throughout the year, and experiments in these substances were continued It has been found that the addition of a small quantity of the substance hitherto used—a compound of crude carbolic, caustic soda, and resin—to crude oil causes rapid spreading and very much increases its efficiency Two of the chief difficulties encountered in the work of mosquito reduction are due to wells and cesspits, both of which are prolific breeding places Cyprus has, generally speaking, a deficient rainfall, and wells have to be used to supplement the supply for domestic purposes The difficulties of finding in Cyprus, particularly in the large towns, adequate supplies of water suitable for domestic a charge which it *does not lie in the mouth of* any honourable Member to make

Mr PRINGLE What is the use of having the Committee?

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Medical Diary for the ensuing Week

SOCIETIES

RÖNTGEN SOCIETY Institution of Electrical Engineers Victoria Embankment, W C

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MANAGER'S NOTICES.

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Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

ALTERATION OF INLAND SUBSCRIPTION RATES

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Three Months	0	7	0

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TO COLONIAL AND FOREIGN SUBSCRIBERS

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

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NEWSPAPERS FOR NEUTRAL COUNTRIES

THE Secretary of the War Office has issued the following order —

> The public are informed that on and after Saturday, November 6th, newspapers, magazines, books, and other printed publications (other than trade circulars) will not be sent forward to neutral European countries unless posted direct from the office of publishers or newsagents who have obtained permission from the War Office for this purpose Persons desiring to send newspapers, &c, to neutral European countries should, therefore, give their orders for execution to publishers or newsagents who have obtained such permission.

The Publisher of THE LANCET has obtained the required permission of the War Office, and he will forward copies direct from the Office to any neutral country on receipt of instructions

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The following magazines, journals, &c., have been received — Archives of Internal Medicine, Calcutta Medical Journal, American Journal of Obstetrics Interstate Medical Journal, Revue d'Hygiène St. Thomas's Hospital Gazette Journal of Dermatology American Medicine La Clinica Ostetrica, Journal of Tropical Medicine and Hygiene Review of Neurology and Psychiatry Albany Medical Annals use form an obstacle to introducing a system of reservoirs and filter beds with pipe distribution which might otherwise mitigate the evils arising from the use of wells and cesspits

The Nicosia General Hospital has accommodation for 53 beds 1175 patients were admitted during the year, and there were 41 deaths The number of out-patients was 5832 Twenty cases of consumption were admitted, with 8 deaths, these patients were accommodated in a detached building well removed from the general wards, and it has proved of great service in dealing with cases amongst the poor and destitute of the town of Nicosia The maternity wards treated 27 cases during the year The training of native midwives, who are taken from all parts of the island, has been a marked and very beneficial feature of these wards A large amount of surgical work was carried out in the hospital during the year, the operations performed numbering 409, a large proportion being for abdominal cases The hospital is being equipped with electric light and an X ray apparatus is being set up The district hospitals of Larnaca, Limassol, Paphos, Famagusta, and Kyrenia carried out excellent work during the year A new building is being erected at Famagusta, rendered necessary by the extensive development of the town and port The hospital at Larnaca has been greatly improved, the wards are now tiled throughout and thus rendered much more sanitary than with the old wood flooring, which was difficult to keep clean

The number of inmates at the Leper Farm is now 97 There were 12 admissions during the year and 10 deaths All classes and stages of the disease are met with in the farm, anæsthetic, tubercular, and mixed varieties exist At the lunatic asylum the inmates number 92 During the year 25 cases of insanity were admitted, 9 died, and 8 were discharged cured or relieved Criminal lunatics have now been transferred from the prisons of the island to the asylum All kinds of mental diseases are met with, but dementia and epilepsy are commonest

The number of samples analysed at the Government Laboratory was 1759, an increase of 584 over the previous year There was an increase of 528 in the total of samples of food analysed, and the percentage of adulterated samples showed an advance of from 13 8 to 15 7 due mainly to the adulteration of pepper and curdled milk The percentage of adulterated samples of flour has decreased and the quality of flour improved, although several samples were found unfit for food Of 65 samples of curdled milk examined 42 were found to be adulterated with alum Alum retards digestion, is an astringent a purgative in large doses, and an emetic in repeated doses, taken internally in doses of more than 15 grains it is injurious to health It is only added to curdled milk to make the latter set quickly, and its addition is unnecessary, since these analyses were instituted the makers of curdled milk have practically ceased to add alum Besides the work of analysing samples and making preparations and giving expert evidence in criminal cases, the Government analyst gave during the year a course of 104 lectures and demonstrations in elementary theoretical and practical chemistry and the allied sciences Five of the pupils passed the examination and were awarded the Government certificate

The absolute mean of the thermometer for the year was 65 21° F, as compared with 65 24° in the previous year, this is little less than the mean of the last 15 years The winter was an exceptionally warm one, as the thermometer in the screen in Nicosia never fell below the freezing point, and no snow was observed on the Kyrenia hills The lowest temperature at Nicosia was 35° and the highest 103° The average rainfall for the whole island was 21 91 inches, as against 24 66 during the previous year, this shows an improvement the average for the past ten years having been only 19 79 There can be little doubt that the gradual re afforestation carried on by the Forest Department and otherwise since the occupation, is having a beneficial effect on the rainfall and atmospheric conditions of the island

MIDWIVES' GRIEVANCES

To the Editor of THE LANCET

SIR,—There are two matters affecting midwives about which a good deal of clamour has arisen, and although no mention has been yet made of them in your columns real grievances appear to exist Pressure is being exerted on midwives to notify to the medical officer of health or to maternity centres the names of patients who book with them This cuts at professional confidence and may have the result of militating against the early booking which is so essential for antenatal care It looks as though an attempt is even being made to bluff midwives into thinking that this notification is obligatory The second grievance concerns the inspection of lying in homes which duty the London County Council has recently proposed to delegate to the borough councils, and has actually deputed for the present to their Public Control instead of their Health Department The status of the registered midwife is scarcely likely to be raised by coming along with nuisances and eating houses, under the jurisdiction of the sanitary inspector It is good that the Central Midwives Board has reiterated its request to the London County Council to keep the inspection in its own hands

I am, Sir, yours faithfully,

Dec 27th, 1915 FAIR PLAY

MR BYFIELD'S CALCULUS

To the Editor of THE LANCET

SIR—Dr Thomas Fuller records the following of his friend, Mr Nicholas Byfield, which I think should find a place in medical literature Mr Byfield was rector of Isleworth, in Middlesex, where he preached five times every week and was actively employed in parish work till five weeks before his death "notwithstanding there was a stone in his bladder, which, being taken out, weighed, and measured after his death, was found of these prodigious proportions 1 In weight, thirty three ounces and more 2 In measure about the edge, fifteen inches and a half 3 In measure about the length, thirteen inches and above 4 In measure about the breadth, almost thirteen inches It was of a solid substance to look upon, like a flint" The dimensions, weight, and the description of the stone originally appeared in Dr Gouge's preface to the posthumous writings of Mr Byfield, which were probably published near the end of the fifth decade of the seventeenth century I am, Sir, yours faithfully,

Dublin, Dec 18th, 1915 GEORGE FOY

VOLTAIC VERTIGO

To the Editor of THE LANCET

SIR,—Your Paris correspondent alludes in connexion with shell shock to "voltaic vertigo" as though the meaning of this term is a matter of common knowledge A reference to a recent medical dictionary gives "an inclination of the head toward the shoulder on the side of the positive pole when a galvanic current is applied to the vestibular fibres of the eighth nerve" This definition does not quite fit the context Bárány has used the term galvanic vertigo, but without further defining his meaning Perhaps one of your readers could help I am, Sir yours *faithfully*

Dec 27th, 1915 ACUSTICUS

T D M R C P E—A number of severe cases of pulmonary and even laryngeal tuberculosis show a tendency to rapid improvement when removed from the source of infection and placed under tolerably healthy conditions One such case, when in harmony with his previous experience, may rightly help to convince the administrator of the value of a particular remedy, but this personal kind of conviction cannot be transmitted

J H, M D—We agree that the causation of high pulse tension is often obscure, but not that high tension is insufficiently recognised as a cause of sudden death Our correspondent's view of apoplexy or cardiac failure as a digestive reflex would require more support than his bare assertion

F W P, L R C P—This is hardly a time at which any form of strike can be recommended

ERRATUM—In an annotation entitled "The Treatment of Cerebro-spinal Syphilis by Mercurialised Serum which appeared in THE LANCET of Dec 18th 1915, p 1361 the quantity of albuminate of mercury which can be held in solution by 18 c c of human serum is given as 1 grm and the dose recommended for injection as 1/50 or 1/25 grm Grm is of course, in each case an error for *grain* Dr C M Byrne recommended that the dose should be contained in 30 c c of serum and normal saline solution

COMMUNICATIONS not noticed in our present issue will receive attention in our next

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, Dec. 29th, 1915.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb.	Dry Bulb	Remarks.
Dec. 23	29·390	S W	–	69	49	44	43	44	Fine
24	28·910	S W	0·30	62	52	44	43	49	Cloudy
25	28·890	S	0·15	65	50	47	49	50	Raining
" 26	29·314	S W	0·14	63	50	44	45	47	Fine
" 27	29·340	S W	0·03	73	54	44	45	46	Raining
" 28	28·810	S W	0·55	69	50	44	44	45	Cloudy
29	29·640	E.	..	50	50	45	46	47	Overcast

Medical Diary for the ensuing Week.

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Communications, Letters, &c., have been received from—

A—Messrs Allen and Hanburys Lond Lieutenant J W Adamson R A M C Dr Robert Armstrong Jones Woodford Bridge Anglo-American Pharmaceutical Co Lond Dr Blair Aitken Ripon Dr M Ap Iwan Junin

B—Colonel H Barrow *Lond* Dr J F *Briscoe* Boscombe Mr F J F Barrington, Blandford Captain J H Bible R A.M C France Lieutenant A. G Bryce, R.A.M C, France British Drug Houses Lond, Secretary of Board of Agriculture and Fisheries Lond. *Messrs Barker and Sons, Lond.* Messrs. Butterworth and Co Lond Mr S T Beckett Leeds *Burlington Magazine* Lond *Manager of Bayer Co* Lond.; Mrs Burton *Cromer* Surgeon General Sir David Bruce A.M S Lond. Captain H L. Barker I M S, *France* Bolingbroke Hospital Lond., Secretary of Messrs Burroughs Wellcome and Co Lond

C—Mr H A Collins Croydon Major W J Collinson I M.S Alexandria Lieutenant Arthur Compton R.A.M.C Messrs *Clarke, Son and Platt, Lond.* Croydon *General Hospital* Secretary of Child Study Society Lond Secretary of Dr F G Cawston Dr R Crawford Lond

D—Dr Courtney *Dunn Torquay* Mr R Davy *Bow* Messrs. W Dawson and Sons Lond, Mrs Daser Lond, Dr R Donald Lond

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K—Messrs H S. King and Co Lond K., Norbiton K E M Haverhill Kumbakonam Municipal *Council*, India, Chairman of Mrs King Washington U S.A Mr R Keeble Bagshot.

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O—*Dr P O Connell* Stillorgan Oxford Eye Hospital Secretary of Mr Joseph Offord Lond *Mrs M E Oliver Kingston* Mrs Orchard Darlington

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S—Mr A Stenhouse Glasgow Mr T *Waddelow* Smith Exeter Mr E S Steward Harrogate Dr A Wood Smith Birmingham Professor William Stirling Manchester Scottish Medical Service *Emergency Committee* Edinburgh; Mr E I Smith Llandovery Messrs. Spiers and Pond Lond South Devon and East Cornwall Hospital Plymouth Secretary *of* Messrs W H Smith and Son Lond. Society of Apothecaries of London Serbian Relief Fund Lond Sec. of Dr B P Sormani *Amsterdam*

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V—Messrs Vincent and Vincent Lond

W—Mr J G Westlake Lond. Worcester County and City Asylum Powick Medical Superintendent *of* Messrs A J Wilson and Co Lond Mr E Warters Lond. West London Post Graduate *College, Dean of*

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A.—Messrs. Appleton and Co Lond Mr K Arnold Lond Argyle and Bute Asylum Lochgilphead Clerk to the A K *Dr J A. Armitage* Hastings; A. G R H., A. R T Ahmedabad Medical Society Sec of Dr D E Anklesaria. Ahmedabad

B.—Mr G S Bigg Lond Dr R H Barker Hungerford Bradford Corporation, Treasurer to the *Boots Pure Drug Co.*, Nottingham Mr M M. Bainbridge *Makerston Dr A B* Bennie Armadale Melbourne Mr H E Blackwood *Liverpool* Mr F H Brewer Newport Mr W D *Betenson* Kew Gardens Miss J L Fleming Burrow Leeds Dr G Breeze Tangier Bradford Guardians *Clerk to the*; Dr R H *Bellwood* Ipswich; Mr D W Bishop *Zeerust* S A., Banco Español del Rio de la Plata Lond, Dr J E Bullock, St. Leonards-on-Sea *Dr R A Brewis Dursley Dr J H E.* Brock Lond

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The FitzPatrick Lectures
ON
MEDICINE, MAGIC, AND RELIGION.

Delivered before the Royal College of Physicians of London

By W H R RIVERS, M D Lond,
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LECTURE I

(*Delivered on Nov 4th 191*)

MR. PRESIDENT AND GENTLEMEN,—Medicine, magic, and religion are abstract terms, each of which connotes a large group of social processes, processes by means of which mankind has come to regulate his behaviour towards the world around him Among ourselves these three groups of process are more or less sharply marked off from one another One has gone altogether into the background of our social life, while the other two form distinct social categories widely different from one another and having few elements in common If we survey mankind widely this distinction and separation do not exist There are many peoples among whom the three sets of social process are so closely inter related that the disentanglement of each from the rest is difficult or impossible, while there are yet other peoples among whom the social processes to which we give the name of Medicine can hardly be said to exist, so closely is man's attitude towards disease identical with that which he adopts towards other classes of natural phenomena

METHODS OF INQUIRY

In any attempt to study a social institution there are three chief lines of approach and methods of inquiry We may examine the institution historically, seeking to learn how it has been built up, how this advance has taken place here and that there, we may study the social conditions under which it has progressed in one place, been stationary in another, and degenerated in a third, and we may attempt to go back to its origin and ascertain the steps by which it has become differentiated from other institutions and has acquired an independent existence

A second method is the psychological We may attempt to study the states of mind, individual and collective, which underlie the acts, again individual and collective, the sum of which make up the institution in question.

The third method, which may be called the sociological method, is the inquiry into the relations of the social processes which we are attempting to study to other social processes in order to determine the interactions between the two

Since the object of the FitzPatrick lectures is the study of the history of medicine, it might seem that the first of these three lines of inquiry should form their subject This would certainly be so if medicine were everywhere the independent and self contained institution which it is among ourselves, but if my opening statement is correct this is very far from being the case A necessary preliminary to any knowledge of its history must be the study of its relations to those other social processes with which it is associated This preliminary task will occupy us in these lectures, which will deal with certain prolegomena to the early history of medicine rather than with the history of medicine itself

It would be quite impossible in the time assigned to these lectures to deal with the subject exhaustively My object will be rather to consider lines of inquiry by which the subject may be studied, and for this purpose I shall limit myself as far as possible to one part of the world, viz, Melanesia and New Guinea, which have been especially the field of my own researches, with occasional references to the allied culture of Australia. The time has gone by in sociology when we tried to understand human institutions by comparing examples taken at random from every part of the world The present trend in the science which deals with these matters is to limit inquiries to a series of related peoples If we reach conclusions by means of such inquiries we can then proceed to see if they will apply in other parts of the world

DEFINITION OF THE SOCIAL PROCESSES

I must begin by defining the three kinds of social process which are to be the subject of our study The distinction between magic and religion is one which has long tried the ingenuity of students of human society Among many peoples, including those with whom these lectures will especially deal, it is far from easy to draw any definite line between the two, and we need a term which will include both A word which is sometimes used in this sense in English is magico religious, and, in default of a better, I shall use it occasionally in these lectures The use of this word will imply a certain attitude towards the world If the matter be looked at from our own point of view this attitude would be one in which phenomena are dealt with by supernatural means I say if regarded from our point of view because, of course, the use of the word supernatural implies the existence of the concept of the natural, and it is just this concept, as we have it, which is lacking among the people with whom I shall deal in these lectures The essence of medicine as we now understand it is that it regards disease as a phenomenon subject to natural laws, to be treated as we treat any other department of nature The distinction between the attitude of the modern practitioner of medicine and the magico religious attitude depends on the difference in the concept of disease in the two cases One chief object of these lectures will be to discover what is the nature of the concept of disease among those who fail to distinguish medicine from magic and religion

While the main topic of these lectures will thus be the nature of the concept of disease among certain peoples of rude culture, and the relation of this concept to those underlying magic and religion, it will be interesting to pay attention to the distinction between these two groups of social process A full study of this distinction would take us too far from our main subject, and I must be content to use a provisional distinction which will be useful for descriptive purposes When I speak of magic, I shall mean a group of processes in which man uses rites which depend for their efficacy on his own power or on powers believed to be inherent in, or the attributes of, certain objects and processes which are used in these rites Religion, on the other hand, will comprise a group of processes the efficacy of which depends on the will of some higher power, some power whose intervention is sought by rites of supplication and propitiation Religion differs from magic in that it involves the belief in some power in the universe greater than that of man himself

Magic and religion are thus differentiated from one another by their attitudes towards the means by which man seeks to influence the universe around him Medicine, on the other hand, is a term for a set of social practices by which man seeks to direct and control a specific group of natural phenomena—viz , those especially affecting man himself, which so influence his behaviour as to unfit him for the normal accomplishment of his physical and social functions, phenomena which lower his vitality and tend towards death. By a process of generalisation society has come to classify these phenomena together and has distinguished them from other groups of natural phenomena under the name of disease As I have already said, one of the chief tasks of these lectures will be to ascertain how far this notion of disease, this category of the morbid, exists among the peoples included in our field of study, and we shall do this mainly by means of an inquiry into the processes by which man reacts to those phenomena we call morbid

Concept of Disease by Various Peoples

One way of approaching the problem will be to inquire how far different groups of mankind have set apart certain members of the community to deal with the morbid When we have evidence of such division and specialisation of social functions, we shall have at the same time definite evidence that those who have reached this specialisation of function have also reached a stage of thought in which they separate morbid from other natural phenomena One point of nomenclature may be considered here In dealing with the subject of medicine from the comparative point of view and among peoples of rude culture, we are met by a difficulty arising out of the wealth of the English language in terms for practitioners of the healing art When in these lectures I am to speak of those members of the community whose special business it is to deal with disease am I to call them doctors, medical men, medicine men, physicians, or what? Medicine men might seem the most appropriate of these in that it is not a term used of our own practitioners, and will thus carry with it no connotation derived from our civilisation It suffers, however, from the disadvantage that it comes to be widely used in anthropological literature for sorcerers and dealers in various forms of magic who may have no dealings with the morbid, and certainly exercise no therapeutical activities I propose, therefore, to use the old English term "leech" When I speak of a leech I shall mean a member of society whose special function it is to deal with the cure of disease He may have other functions, such as the formation of rain, the promotion of vegetation, or even the production of disease itself, but in so far as he is dealing with the cure of disease he will be, in the nomenclature I shall use, a leech

One of the methods then, by which we may seek to ascertain how far different peoples of the world distinguish morbid from other natural phenomena is by inquiring how far they distinguish the leech from the sorcerer or the priest The chief line of inquiry, however, will be an examination of the processes by which man at different stages of culture deals with disease We shall find that even when there is no clear differentiation of the leech from other members of society mankind has theories of the causation of disease, carries out proceedings which correspond with those we call diagnosis and prognosis, and finally has modes of treatment which, even if they have little in common with our own remedies, nevertheless may be regarded as making up a definite system of therapeutics

I have said that one of the chief objects of these lectures will be an attempt to discover the nature of the concept of disease held by different peoples I must first say a word about what we mean when we speak of a people possessing and acting on such a concept I do not mean such a clear concept as is held, say, by the writer of a European text book of medicine, a concept capable of being expressed by the formula we call a definition Such a concept is the result of a very advanced process of generalisation and abstraction, and we all know how difficult it is to frame such a definition, even with the large system of exact knowledge which we possess It is evident that when we speak of the concept of disease held by such a people as the Melanesians we mean no exactly formulated definition, but a more or less vague system of ideas, which, though not distinctly formulated by a people, yet directs their behaviour—their reactions towards those features of the environment which we have classified together under the category of disease

Beliefs as to Causation of Disease

One element of the concept of disease, and perhaps the most important, is that it includes within its scope the factor of causation There are usually clear cut ideas concerning the immediate conditions which lead to the appearance of disease One happy result of this fact is that we are able to approach our subject by way of etiology, and are thus led to deal with the medicine of savage peoples from the same standpoint as that of modern medicine, which rests, or should rest entirely upon the foundation of etiology By starting from etiology we shall find ourselves led on as naturally to diagnosis and treatment, as is the case in our own system of medicine

If we examine the beliefs of mankind in general concerning the causation of disease we find that the causes may be grouped in three chief classes (1) human agency, in which it is believed that disease is directly due to action on the part of some human being, (2) the action of some spiritual or supernatural being or, more exactly, the action of some agent who is not human, but is yet more or less definitely personified, and (3) what we ordinarily call natural causes

Among ourselves there are indications of the presence of all three kinds of belief, and this was certainly so in the not very remote past We now only think of human agency in cases of poison and injury, and then only as the means by which the action of natural causes has been directed The second category still exists in the "hand of God" of our statutes and in the oral rites of our religion, but has ceased to take any part in orthodox medicine, though it still plays some part in the behaviour of the laity towards disease In the professional art of medicine and in the practice of the majority of the laity the attitude towards disease is directed by the belief in its production by natural causes, meaning by this a body of beliefs according to which disease comes into being as the inevitable result of changes in our environment quite independent of human or superhuman agency

If, on the other hand, we examine the culture of any savage or barbarous people we find that their beliefs concerning the causation of disease fall in the main into one or other or both of the first two categories, while in many cases the third category can hardly be said to exist, and even then we cannot assign the beliefs to the category of natural causation. I shall deal with these cases more fully in the second lecture. For the present I shall confine my attention to those cases in which the native ideas concerning causation bring them within the realm of magic or religion. In this first lecture I shall deal with cases which must either be definitely classed with magic or belong more nearly to this category than to that of religion.

It would greatly simplify the treatment of our subject if the line of cleavage between the cases of the causation of disease by human and non-human agency corresponded with the distinction between magic and religion. When writing these lectures I was at one time inclined to throw the distinction between magic and religion on one side and describe the facts with which I shall have to deal under the headings of human and non-human agency. Such a plan, however, would only have avoided a difficulty which it is better to face, for if we treat medicine from the sociological standpoint we must study it in relation to other recognised social processes. Unless we are prepared to throw the categories of magic and religion aside altogether, they cannot be ignored in any discussion of the social relations of medicine.

Disease or Injury Ascribed to Magic

The concept of magic which at present holds good in sociology and ethnology is largely influenced by the art called by this name in our own Middle Ages. The best known form of mediæval magic was one in which non-human, spiritual agents took a most important part. These beings acted as the immediate producers of disease and other effects, the magical character of the proceedings resting on the belief that the non-human agents had come in one way or another under the power of the human magician.

The magic of many peoples of rude culture, including those of the area with which I shall especially deal, differs widely from this in that disease or injury is in many cases ascribed to purely human agency, even when to us the real cause of the condition would seem to be obvious. This mode of causation is not merely brought into play to explain cases of illness which have no obvious antecedent, but also those in which what we should call the natural cause is obvious. Thus, if a man is killed or injured by falling from a tree in the Island of Ambrim in the New Hebrides, the fall is not ascribed to a loose branch or to some failure of coördination of the movements of the climber, but the accident, as we loosely call it, is put to the account of a sorcerer. It is probable that the sequence of ideas in the Melanesian mind is that in a business so familiar as that of climbing trees accidents would not happen unless someone had interfered with the normal course of events. If a sorcerer had not loosened a branch or produced an illusion whereby the victim had seen a branch where there was none, he would not have fallen to the ground.

Similarly, death or injury in battle is not ascribed to the superior skill of the enemy or to a failure of defence, but it is believed that a sorcerer has directed the missile of the assailant or has interfered with the defensive motions of the victim or the integrity of his weapons. A case of snake bite is not ascribed to the act which, according to our ideas, is natural to a venomous animal, but it is believed that the snake has been put in the path of the victim by a sorcerer, or has been endowed with special powers by a sorcerer, or it may even be held that the animal which has bitten the victim is no ordinary snake, but the sorcerer himself in snake-like form.

To those whose main category of the causation of disease is human agency there is a firmly rooted belief in this mode of production, not only where causation would otherwise be mysterious or unknown, but also in those cases where the cause would seem, even to the most uninstructed lay mind in our own community, to lie within the province we call natural. It may be noted, moreover, that such ideas concerning the causation of disease are not empty beliefs devoid of practical consequences, but act as the motives for processes of treatment in case of injury or for acts of revenge if the magical process should lead to the death of the victim. If we were so to define magic as to identify it with the exclusive action of human beings, this part of our subject could soon be treated. The art of diagnosis would consist in the discovery of the human agent and the essential element in the treatment would be the use of measures which would lead the sorcerer to put an end to the actions by which he is effecting his maleficent purpose.

In addition to these cases of purely human agency there are many others in which our records tell us explicitly of conditions closely similar to those of our own Middle Ages in which the immediate cause of the disease is the action of some non-human being who is either under the control of human agency from the beginning or is capable of being brought under such control when it is desired to influence the results produced by its action. In such cases the methods of diagnosis and treatment are often indistinguishable from those employed where the morbid condition is ascribed to direct human agency. Disease or injury believed to be produced by spiritual agency is treated without any element of those processes of supplication and propitiation as would be necessary to bring them within the scope of our definition of religion.

In those cases in which a leech acts through the intermediation of non-human beings our records often leave us in doubt whether the curative actions should be regarded as magical or religious. A decision on this question can only be reached through an exact knowledge of the rites, manual and verbal, by which the leech effects his purpose, and it is only rarely that field workers record these, being too often content to base their opinions on inferences contaminated by ideas derived from their own sphere of knowledge and interest.

My own opinion—it is nothing more than an opinion—is that as our exact knowledge of the leechcraft of different parts of the world increases, we shall find that the religious element in medical rites has been underestimated, or even ignored where it exists. At any moment, however, in the history of a science we must base our arguments upon the recorded facts, and in the account which I shall give my object will be to illustrate the difficulties and uncertainties of the subject rather than lay down any definite conclusions.

The cases I shall consider in this lecture are those in which it is believed that disease is directly due to human agency, and those in which on the available evidence it would seem that the methods of diagnosis and treatment depend on power believed to be inherent in the leech and his rites, or become effective through the intermediation of non-human beings who need no definite rites of propitiation and supplication to persuade them to intervene in the curative process In considering these cases it will be useful to distinguish certain classes according to the nature of the process by which it is believed that disease can be produced, the method of treatment being as a rule such as would follow from the nature of the cause

Three main classes may be distinguished (1) Those in which some morbific object or substance is projected into the body of the victim, (2) those in which something is abstracted from the body, and (3) those in which the sorcerer acts on some part of the body of a person or on some object which has been connected with the body of a person in the belief that thereby he can act on the person as a whole These three classes will now be considered in detail

DISEASE ASCRIBED TO OBJECT OR INFLUENCE PROJECTED INTO VICTIM'S BODY

The class of cases in which the cause of disease is supposed to be some object or substance which has been projected into the body of the victim fall into two groups according as the morbific objects have found their way into the body of the victim by direct human agency or by the action of some non human agent Both kinds are of frequent occurrence in Australia, where material objects such as stones, crystals, fragments of bone, or leaves are believed to be projected into the body, in some cases by sorcerers and in other cases by spiritual beings who thus punish intrusion into their sacred haunts or other offence Disease is also produced in this manner among the Masingi of New Guinea.[1]

In Melanesia this mode of production of disease by the projection of material objects into the body seems to be exceptional Where disease is believed to be due to such projection it is usually held that some invisible influence has been projected into the body, and even where some material substance has been introduced, it is not supposed that the object itself produces the disease, which is ascribed rather to some morbific essence or effluvium, of which the material object is but the carrier and visible sign

A good example of such a mode of production of disease which occurs in more than one part of Melanesia is by means of an instrument called in the Banks Islands *tamatetikwa*, or ghost-shooter A mixture of leaves a dead man's bone, and other ingredients are placed in a slender bamboo which the sorcerer holds in his hands with the thumb over the open end till he sees his enemy, when the removal of the thumb allows the evil influence to reach the victim Dr R H Codrington has recorded[2] some dramatic cases in which this method was employed which very well illustrate the profound belief in its efficacy By means of suggestion the ghost-shooter will kill a powerful and healthy man in a couple of days A less direct procedure customary in the Banks Islands, and there called *talamatai*, is to wrap a parcel consisting of a dead man's bone, or part of an arrow which has killed a man, in leaves and place it on the path over which the person whom it is desired to injure will shortly pass The magical principle will spring out of the bundle and pass into the body of the victim

In cases of illness thus caused by the introduction of morbific objects or essences into the body of the patient the treatment follows directly from the etiology, its aim being to extract the object or essence from the body, and thus remove the cause of the disease For this purpose it is not always or even usually necessary to discover the agent by whom the objects have been introduced In communities which ascribe disease to this cause there are men and women who are believed to have the power of removing objects, usually by sucking some part of the body, after which a stone, crystal, or other object is shown to the patient as having been removed by the process Since in many such cases the disease has been produced by a suggestion set in action by the knowledge of some cause of offence to one believed to have the power of producing disease in this way the sight of the object thus said to have been removed effects a rapid cure in removing the suggestion In some cases, and especially in those in which the projected substance is of an immaterial kind, it may be necessary to discover the agent who alone can remove what has been implanted in the body, and in this case some method of divination is usually employed to discover by whom the disease has been produced

DISEASE ATTRIBUTED TO ABSTRACTION OF PART OF BODY OR SOUL

The second mode of production of disease is that in which it is believed that something is abstracted from the body Examples of this occur in Australia, where the abstraction of the kidney fat, or, perhaps more correctly, of the fat of the omentum, forms one of the most widely held beliefs In New Guinea and Melanesia this belief does not, so far as we know, exist, but in many parts of these regions the people believe in the causation of disease by the abstraction of the soul or of some part of it The Melanesian examples of this process are all, so far as we know, due to spiritual agency.

Thus, in the Banks Islands the *atai* or soul may be taken from a man by one of the spirits called *vui* The treatment consists in the recovery of the soul by one called *gismana* whose *atai* leaves his body in sleep and seeks out the soul of the patient[3]

Another example of which we have a full record[4] comes from the Gazelle Peninsula of New Britain and Duke of York Island, where it is believed that disease is produced by one of a group of beings called *kaia* which have the body or tail of a snake and the head of a man The *kaia* usually acts in this way on one who has intruded on its haunts or taken fruit without proper authorisation from trees in the district it inhabits

If anyone falls ill in these places the people resort to a process of divination to determine whether the disease is due to the action of a *kaia* or has arisen in some other way The diviner places under his arm pit a piece of shell money enclosed in a lime strewn banana leaf and falls into a sleep in which he learns not only how the disease has been produced, but, if it is due to a *kaia*, he is able to tell the nature of the fault which has incurred the anger of the half snake half human being The diviner who also acts as a leech then proceeds to carry out his treatment

In the Duke of York Island, lying between the northern end of New Britain and the southern end of New Ireland, this treatment is as follows The leech sprinkles lime on a dracæna leaf, enfolds it in a leaf of another kind and places the packet so formed on a fire until it is almost carbonised The patient then stands with raised arms and the leech passes the hot packet over his body with movements resembling the curves of the body of a snake while the patient stamps on the ground so as to shake off the influence of the *kaia* Then the leech opens the packet and takes therefrom a pinch of lime over which he incants the following formula —

"Lime of exorcism I banish the octopus, I banish the *teo* snake, I banish the spirit of the *Ingiet*[5], I banish the crab, I banish the water snake, I banish the *baliro* snake, I banish the python, I banish the *kaia* dog[6]

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[1] C G Seligmann : The Melanesians of British New Guinea, Cambridge 1910

[2] The Melanesians, London 1891 p. 205

[3] W H R Rivers : History of Melanesian Society Cambridge 1914 vol I p 165

[4] J Meier : Anthropos vol III (1908) p 1006

[5] A secret society

[6] A special kind of dog unlike the existing dog of New Britain which forms one of the companions or familiars of the *kaia*. The other animals mentioned in the formula are also familiars of the *kaia*

Lime of exorcism I banish the slimy fluid, I banish the *kete* creeping plant, I banish To Pilana, I banish To Wuwu Tawur, I banish Tumbal. One has sunk them right down deep in the sea. Vapour shall arise to hold them afar, clouds shall arise to hold them afar, night shall reign to hold them afar, darkness shall reign to hold them afar, they shall betake themselves to the depths of the sea"

This is a literal translation of the original, Father Meier gives the following as the expression of its full meaning —

> This is lime for exorcism with which I drive away the octopus, the different kinds of snake, the spirit of the *Ingiet* and the *kaia* dog This is the lime with which I drive away the slime of the *kaia* pool, the creeping plant called *kete* and the *kaia* called To Pilana To Wuwu Tawur, and Tumbal I have sunk them and they are now below in the deepest depths of the sea. Thick vapour, impenetrable cloud dark night and black darkness shall surround them and block their way for ever to the upper world so that they shall remain for ever in the infinite abyss of the sea."

When the formula is finished the leech blows the lime over the patient and more lime is smeared on his body, especially in the epigastric region, on the arms near the shoulders, and on the ears and great toes The packet is then thrown away and the upper part of a coconut three-quarters ripe is husked with the teeth and a hole bored in the shell round which red ochre is smeared The leech then rubs in his hands a bloom of a species of mint, puts the fragments in the nut, and utters the following formula over the nut to act upon its milk.

> The coconut of exorcism I banish the slime of the *kaia*, I banish the slime of the crab, I banish every pool with yellow slime, away with every swarm of *teo*-snakes, away with the spittle of the *teo*-snake, away with To Wuwu-Tawur, away with all the sap of the *kete* creeper; away with every *alai pi kai* creeper, away with all red brown water.[7]
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> I banish every water of the *kaia*, away with every octopus, away with all the blood of the tree-snake.
>
> I banish every puffed up belly, I banish every dried up shrub and grass, I will fetch his soul again from the hollow[8] of the *kaia*"

The leech then bespatters the patient with saliva, gives him the coconut to drink, takes his fee and goes

This production of disease by the *kaia* comes in several respects very near the domain of religion, but I have included an account of the proceedings connected with it in this lecture because the treatment bears no evidence whatever of any appeal to, or propitiation of, higher powers The attitude towards the *kaia* itself is evidently that of the exorcist acting on a being who is believed to be capable of control by the leech through his knowledge of the proper rites, manual and verbal It is, of course, possible that behind the whole proceedings there may be the idea of appeal to some higher power of which the formulas provide no evidence but we can only act on the evidence before us, and this shows no trace of any such idea. We have here an example of social activity which we must provisionally label as magic, but of a magic which differs fundamentally from that of the Australian or inhabitant of Torres Straits, a magic which approaches in its general character, as well as in many of its details, that of our own Middle Ages It is not a process by which one person counteracts the injurious influence of another person, but one by which a human being, through the knowledge of the appropriate rites, is able to act upon a non human being in such a way as to counteract his influence

MAGICAL ACTION ON SEPARATED PART OF VICTIM S BODY OR TOUCHED OBJECT

The third kind of process which I have included under the heading of magic is that in which disease is believed to be produced by acting upon some separated part of the body of the victim or on some object which has been in contact with him This kind of magic, usually known as sympathetic magic, has been so frequently considered[9] that it is hardly necessary to consider cases in detail I propose to confine my attention to one example, which may help us to understand the exact nature of the process more clearly than has hitherto been possible This example has only recently been recorded by Keysser,[10] a missionary among the Kai, an inland people of the north eastern part of New Guinea. This procedure is of especial interest in that it shows the presence among this people of ideas concerning sympathetic magic which brings it into close relation with our second category in which disease is produced by the abstraction of something from the body According to Keysser, the Kai believe in a soul substance which permeates not only every part of the body, but also extends its presence to anything which has been in contact with the body When a sorcerer secures part of the body of his proposed victim or an object which has been in contact with his body, he is believed to be really securing part of the soul of the person, and it is by the action of his magical processes upon this isolated portion of the soul that the rites of the sorcerer produce their effect

> A sorcerer who thus secures part of the soul substance of one whom he wishes to injure repairs to a lonely hut situated in a spot reputed to be the haunt of a ghost or other spiritual being, so that it is avoided by all except those who have undergone special initiation into this mode of magic or have in some other way acquired knowledge which enables them to visit the spot with impunity Often several sorcerers act in concert, each performing the rites I am about to describe, at first independently and later in concert
>
> The fragment of the body of the victim, or of something which he has touched, by means of which the sorcerer acts, is called *ga* It may be hair a drop of sweat, excrement, remains of food or even a piece of wood which the victim has touched. The *gâ* must have been freshly removed from, or been in contact with, the body of the victim, so that the sorcerer can be confident that it still contains the soul-substance of his victim. In order to ensure its retention the *gâ* is put at once in a piece of bamboo which is hidden and kept warm by being placed in the arm pit of the sorcerer The *ga* must not be taken near fire or smoke nor must it be brought into contact with water or with any sharply pointed object for all these conditions tend to expel the soul substance from its resting place
>
> As soon as possible the sorcerer wraps the *gâ* in a leaf of which caterpillars are fond with the idea that as the leaf is eaten by caterpillars so will the body of the victim be eaten by worms The *gâ* wrapped in the leaf, is put in a small bamboo, which must have been taken from a place inhabited by ghosts or spirits Fragments of the bark of certain trees are added to the packet, some are added in order to make it heavy for it is by means of the weight of the packet that one judges whether the soul substance is present or has disappeared Another tree the bark of which is added has a very thick stem and is used in the hope that the body of the victim will swell, while the bark of other trees is added on account of their evil smell The bamboo and bark are wrapped in another leaf and bound up with a creeper which withers very quickly pointing thus to the rapid wasting and death of the victim The packet so made is closely bound till it is just of a size to go into a larger piece of bamboo, which must also come from the abode of a ghost or spirit This is put in yet another bamboo which is sealed with the inspissated sap of a tree and covered with shells As the packet is thus wrapped and sealed the sorcerer calls to the white cockatoo ' Cockatoo Cockatoo, come and tear open the body of X, bite his entrails to pieces so that he dies" The packet is then bound to a rod and over it are sung words

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[7] Water containing reddish algæ.

[8] The *kaia* are said to dwell in hollows in the hills

[9] See especially J G Frazer The Magic Art London, 1911 For examples from Melanesia, cf. Rivers, op. cit. i., 156.

[10] In Deutsch Neu-Guinea" by R. Neuhauss, Berlin 1911 vol. III, p 135

by means of which the spirits are summoned from the hollow where they dwell to take the soul of the victim to the home of the dead The packet is wrapped in a prickly creeper so that the body of the victim shall be tormented with painful stings and then in a leaf with fine hairs which tickle and irritate the skin, and the whole is wrapped in a withered leaf of the bread fruit tree, with the idea that as the leaf falls to the ground so shall the body of the victim wither and fall into the grave

During all these proceedings the sorcerer murmurs "Oha and WaLang, ye two giant lizards, lay yourselves on his soul and press upon it so that all joyful springing and all pleasure shall cease Stop his ears so that he no more hears and his thoughts become confused" As these words are uttered the sorcerer beats with his open hand on the packet in order that painful blows may affect the body of the victim The packet is then bound once more with a creeper, while the following formula is uttered "Fall and rot like the gherkins Let the victim disappear in pains May his limbs writhe in pain May his whole body writhe in pain May his entrails become contracted in pain May his generative organs be distorted in pain" These proceedings are not carried out once merely but are repeated again and again, it may be for many months

Every other day the sorcerer enters the lonely hut where he keeps the imprisoned soul and treats it in this way, putting the packet on each occasion upon the ashes of the fire, and this goes on until the victim begins to sicken when the proceedings enter upon a new phase The packet is heated at the fire after being covered with fine prickles, and the bark of a tree covered with tubercles is added so that the body of the victim may be covered with similar lumps The packet is bespattered with the chewed root of a hot peppery plant so that the victim shall have fever The fire at which the packet is heated must be made only of certain woods and of a creeper, the section of which darkens when it is cut, with the idea that the skin of the victim shall darken and his blood become black Every day, if possible, the packet is laid on the fire with the words —

> "Eagle and Hawk Ye both, here is your prey Seize it with sharp claws
> Rend his body and tear it to pieces Then may corruption and worms maggots and beetles utterly destroy his body"

At every repetition of this spell the packet is turned round by an assistant while the sorcerer himself mimics the agony of his victim He cries, shouts, and groans as if in pain He complains to his friends who visit him and prays for help and sympathy, and his assistant comforts him in the way of one who visits a friend in so grievous a situation Finally, the sorcerer groans like a dying man, imitates the death rattle draws his last breath, and pretends to be dead Before leaving the packet for similar treatment on another day he puts it between pieces of wood weighed down with a stone and covers the whole with ashes

In order to reassure himself from time to time that the soul is still in the packet the sorcerer goes to the hut in the darkness and listens If he hears a rustling in the roof of the hut or any other sound he is satisfied that the soul is still there, and that his labours still await their reward To assist his purpose however, he must submit to many hardships and restrictions He must not bathe nor let rain touch his skin He may only drink the water of puddles which have been heated in the sun, for the cool water of a stream would allay the burning fever of his victim Even pure water of any kind may be regarded as unsafe, and the sorcerer may drink only water which has been used for cooking He must not eat boiled vegetables, but must roast his *taro* at a fire During the whole proceedings he must abstain from sexual intercourse, nor should he take food from men who have not so abstained

In the hut where the packet is kept there must be deathly silence No one must speak aloud nor cough loudly All conversation must be conducted in whispers No wood may be broken and such noise as that produced by treading on twigs must be avoided The hut itself consists of two chambers in the smaller of which the packet is kept, and no light is allowed to enter this chamber so that the imprisoned soul may receive no ray of hope for its escape

The whole proceedings reach their climax at a feast which has brought together the people of many parts The sorcerer and his companions leave the rest and assemble in the lonely hut All those who have been carrying out these rites bring their bundles with them These are weighed on the open hand, so as to judge whether the soul is still present, and those found to be too light are set aside The rest are put in an old pot covered with shards strewn with ashes, and surrounded with a ring of fire Then the sorcerers imitate the sickness of the victim, after which the packets are taken from the spot and laid on an open fire so that the outer coverings are consumed with the idea of bringing the disease of the victim to a crisis The sorcerers writhe as if in mortal pain, sigh, groan, and utter loud complaints Their friends visit them, pity them, and express opinions about the people by whom they may have been bewitched While some of the sorcerers are thus simulating mortal sickness, others take the packets from the fire and wring them between pieces of cloth with the idea that the victim shall be smitten with mortal agony, his throat and heart pressed together, his breath driven out, and he himself driven to death by terror and despair The pieces of cloth are cut and each packet falls to the ground while some mimic the death of the victim and others utter his death wail At the same time a tree in the neighbourhood is felled to which the name of the victim is given

Finally, the packet is thrown in the fire so that the coverings are completely burnt and the bamboo vessels within it are wrapped in bark and beaten violently with a stone while the death scene is again portrayed While some lie as if dead upon the ground, others talk about them and their affairs and put on women's head dresses and wail as if they were women They utter the reproaches of one village against another and threaten fearful revenge The wordy war leads to blows, and with cudgels and sticks to represent weapons the sorcerers fight in mockery of the combat which will follow the death of the victim

Treatment Magical or Religious Nature of Rites

The treatment of the morbid conditions produced by these magical proceedings is inspired by beliefs of the same order, consisting of measures to counteract the rites of the sorcerer The method, frequently found elsewhere, in which the sorcerer himself is induced by payments or other means to remove his spell, in this case to release the imprisoned soul substance, is not mentioned by Keysser, but the release of the soul is brought about by other means A friend of the victim may secretly free the soul from its prison, or the liberation may be effected in a symbolic manner A magical receptacle in which some soul substance has been put is rubbed against the breast, back, and legs of the patient to portray the return of his own soul substance to his body, and the receptacle is then torn asunder to show that the soul is free The action is repeated three times, on each occasion with a different formula, and by the power of these actions the soul substance which has not been sufficiently closely bound can again be made free The principle underlying another method is that of the extinction of fire by water, some of the soul substance of the patient being placed in the cool water of a mountain stream In still another method some of the soul substance of the patient is enclosed in leaves and hidden within a hollow stone, which is then thrown into a deep pool The therapeutical measures thus employed by the Kai in order to cure disease produced by magic thus reveal the same dependence of treatment on etiology which we have found among other peoples and in proceedings of other kinds

These elaborate rites of the Kai would be regarded by all ethnologists as an example of magic but they have several features which bring them very near to religion The formulas are not decisive in this respect, though more than one seems to have in it a note of appeal to higher powers Still more significant of the religious attitude is the ordinance that certain of the objects used in the rites must have come from the abode of ghosts or spirits The methods of treatment, on the other hand, seem to be purely magical, and taking the rites as a whole they must certainly be regarded as magical rather than religious

CONCRETE NATURE OF BELIEFS UNDERLYING THE RITES

The rites of the Kai provide characteristic examples of the two kinds of sympathetic magic known respectively as imitative or homœopathic and contagious magic The principle which has hitherto been held to underlie these forms of magic is of a more or less mysterious kind

Thus Sir James Frazer[11] refers the belief in the connexion between a person and a separated part of his body to a relation "which we may conceive as a kind of invisible ether, not unlike that postulated by modern science for a precisely similar purpose—namely, to explain how things can physically affect one another through a space which appears to be empty '

Sir James Frazer does not, of course, intend this explanation of contagious magic to be anything more than a figurative expression in the language of modern science of the modes of thought which determine the actions of savage man Into whatever equivalents however, we translate his language the ideas thus held to form the basis of contagious magic will have an abstract, if not mystical, character which I believe to be opposed to the concrete nature of the mental processes of peoples of rude culture Often the savage performs rites of the most complex kind merely because this course of action has been prescribed for him by the immemorial traditions of his community but where direct motives for his actions can be discovered they have a concrete character very different from that suggested by the metaphor of Sir James Frazer

The special interest of the blend of medicine and magic practised by the Kai lies in the concrete and definite character of the beliefs which underlie these elaborate rites The savage has few concepts more definite than that of the soul and of its continued existence after death We have only to qualify this concept by the addition of the belief that the soul is divisible to give us the principle which underlies the magic of the Kai, a principle as definite as any of those which underlie the religious conduct of civilised man The contagious magic of the Kai rests, not on any mystical belief in action at a distance but on the belief that the sorcerer has in his possession part of the soul of another person, part of the vital essence of the person he wishes to destroy The conduct of the sorcerer might be held to imply a belief that action upon the part is equivalent to action upon the whole, but it is probable that there is rather confusion between part and whole, or more correctly in the case of the Kai between soul and soul substance That this is so is suggested by the confusion between soul and soul substance which occurs in several parts of the account given by Keysser

We only know of the concept of a divisible soul substance in New Guinea and the Malay Archipelago, and we must await further evidence to show how widely diffused it is throughout the world All that we can say now is that this concept affords an explanation of much in the ways of savage man which is at present mysterious and unintelligible

There is probably as little justification for ascribing the other main variety of sympathetic magic to any vague mysterious principle The rites of the Kai are full of acts which show a belief in the efficacy of imitation, many of their features depending on the idea that the imitation of an event will bring that event to pass This principle, often summed up in the phrase, "like produces like," is one in which there is nothing vague or indefinite It may only seem so to the more scientific of our number because we have ceased to believe in it as a law of natural causation, though, as we all know, a variant of it forms the basis of a system of medicine which still flourishes among us Such positive knowledge as we possess concerning the psychological processes underlying the blend of medicine and magic leads us into no mystical dawn of the human mind, but introduces us to concepts and beliefs of the same order as those which direct our own social activities

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CONTRIBUTIONS TO THE STUDY OF SHELL SHOCK

BEING AN ACCOUNT OF CERTAIN CASES TREATED BY HYPNOSIS

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II.[1]

IN this communication I propose to describe a selected few of various cases of "shell shock" which I have had the opportunity of treating in the field by means of hypnosis

Total Amnesia

CASE 4 (Case number 390) —Private ——, admitted into a field ambulance and seen by me there three days later, having been found wandering in a neighbouring village, clad only in his shirt and socks He was unable to give his name, regiment or number He thought his age was between 20 and 30 I tried him with various christian names but he replied that none of them seemed familiar to him He could remember two men finding him as he was strolling on the outskirts of a village and could describe everything that had occurred to him since then There was no means of identifying him and his past was a complete blank, he could recall nothing, for instance, of the events of his childhood.

He appeared considerably depressed at his condition, he said that he wished he could recover his memory and that it would be a worry to his people " if he had any belonging to him. He did not complain of any aches or pains, only of numbness over the occiput. His legs were tremulous as he lay on his stretcher his hands were tremulous when held out, and his tongue was faintly tremulous on protrusion His left arm and leg and the left side of his face (not scalp), chest, and abdomen were hypalgesic, his voluntary movements were normal His reflexes, superficial and deep, were normal, save that the knee jerks were exaggerated, and a pseudo-clonus was obtainable at the left knee and at the right ankle His pupils reacted very actively to light, no limitation of visual fields eye movements normal.

He had slept fairly well since his admission to the field ambulance but complained of a nightmare on the night before my visit, when he dreamed that he was in the trenches throwing bombs and that the Germans threw one at him which hit him in the nape of the neck, waking him up "in a cold sweat."

Under hypnosis into which he easily passed, he first repeated to me his dream. Then his thoughts turned to his mother living in a small house in the country, "near a big town ' "where they make anchors and chains " He recalled working with his father as a labourer on hayricks All this information had to be dragged from him piecemeal with considerable difficulty He next recalled the names of the village and of the manufacturing town near by Then he gave me his own name, regiment, and number, but always with uncertainty, qualified, for example, by the words "I think." Finally, he was persuaded to describe what happened after the bomb throwing (for his dream turned out to be an actual event), "I must have gone off my head and run away I must have taken off my clothes in a field I spent the first night under a hedge I spent the next two nights in a wood I ate nothing The next night I was walking along a road on the outskirts of a village, and I was taken to a house by two men " These data, like the preceding, were only extracted with great difficulty and after much persuasion.

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[11] Op cit vol. I p 54

[1] The first of these communications appeared in THE LANCET of Feb 13th 1915

When he awoke from hypnosis the suggestion which I gave him before waking that he would remember all that he had told me proved only imperfectly effective He could not remember his name, regiment, number, nor the names of his native village and the neighbouring town But in reply to further questions he had a vague recollection of having been dreaming of his mother and of his wanderings, and he could be induced to recall them as well as his former occupation, the town where they make anchors and chains, &c.

When he was rehypnotised without delay, his memory became much clearer and ampler than before, and he was far more certain of his past history He recalled, for example, the standard (7th) at which he left school (at 14) and a punishment he had received since enlistment for "cheeking" a sergeant Then he told me that he had been in France for eight months and had enlisted nine months previously A much more powerful suggestion was brusquely given, followed by a complete recovery of memory on waking from this second period of hypnosis His entire expression changed, his pupils became larger, and his despondency disappeared At the same time the previous occipital numbness and left-sided hypalgesia vanished

Transferred to a base hospital, and thence for three weeks to a hospital in England, he has made an uninterrupted recovery and has now rejoined his unit

Rhythmic Spasmodic Movements

CASE 5 (Case number 362) —Private ——, aged 23, seen by me at a casualty clearing station the day after admission Three days ago, he said the Germans sent over "whizz-bangs and coal boxes" in reply to our shelling, and he had been told that he "got pitched up in the air" But the last thing he remembered of the occasion was being on guard the next was digging himself out of the fallen sand bags He remembered running then to the shell trench, but he "found this too hot" and returned to the firing trench going to his dug out, when he noticed that his eye sight was defective He lay in the dug out, flinching each time a shell came, and "trying to get into the smallest possible corner " At night he came out to endeavour to "do guard," but someone noticed that he was making involuntary spasmodic movements which had begun a short while previously He was ordered to return to the dug out, was helped to the regimental aid post by a man on each side of him, and was sent to hospital He had enlisted for the war and had been in France eight months He had also "got shook up a bit" four months ago, when five or six bombs threw dirt in his face. His hands and his handwriting then became shaky, but he did not "report sick."

His appearance was that of a strong, robust, and honest man He seemed depressed and begged me to make him well His most noticeable movements were in his legs but occasionally he shrugged his shoulders On admission, I am told, the latter movements were much more marked and he kept diving beneath the bedclothes, bringing up his knees to meet his chin To-day the leg movements were due solely to strong, periodic, simultaneous contractions of the two sartorius muscles the rate of contraction of which varied from 60 to 70 per minute increasing to 90 during the excitement of examination These involuntary movements were observed by the sister to continue during apparent sleep Pulling down the patella was found to inhibit one or two contractions of the corresponding sartorius His knees remained extended when the thighs were passively raised from the bed He complained of severe headache ' as if I had had a hammer dropped on my head ' His legs were very tremulous, especially when he lifted them, his hands and tongue were only faintly tremulous His right leg and arm and the right side of the face and chest (not the abdomen) presented certain disturbances of sensibility which can be better described in a later communication devoted to th subject His voluntary movements were normal Only t patellar and plantar reflexes were examined Of these t former were much exaggerated, while the latter could not elicited, probably owing to the rigidity of the feet H pupils were of moderate size and reacted normally to ligh visual fields and eye movements appeared normal

Under hypnosis he was able to recall all the events duri the period of his previous amnesia. He remembered t direction from which the shell came, how he was lifted u how he fell on his back, &c As he passed into a deep state of hypnosis the contractions of the sartorius muscl became very much diminished, but did not absolute disappear Before rousing him from hypnosis, I suggeste that now and on waking he would lose his headache and h involuntary movements, and that he would recover his spiri and his memory The movements at once ceased and h awoke able to stand, absolutely free from his headache a spasmodic movements, with recovery of memory, and other observers spontaneously remarked "looking anoth man " The previous unilateral disturbances of sensibilit were found to have disappeared

He was transferred to a base hospital

Mutism

CASE 6 (Case number 19) —Private ——, aged 32, seen b me the day after admission to a base hospital complete mute, but able to read and write He wrote ' I wa buried alive on —— and again on —— (5 months an 4½ months respectively before admission), and then I ha the misfortune to have two shells burst over me on — (four days before admission) There was shelling for abou 20 minutes and then two bursted over my head I did no remember any more until you came to see me but I am sti liveing in hopes to regain my speech back." In referenc to his first burial he also wrote that he afterwar wandered with Lance Corporal —— for two days, but tha his memory for these two days was completely gone, h comrade and he finally came across men of the Frenc artillery, who enabled them to rejoin their regiment H could not recall how he got his food during those two day He said that this time, although he found a piece of she in his tunic he was unhurt, but that on the first occasio he fell and hurt his back, and suffered for some time fro pains in the back and head and from insomnia, which ha recurred now

His understanding seemed slow and his look wa vacant. Occasionally he made jerky movements of th arms and a noise like a snore came from his naso-pharynx His voluntary movements were restricted, weak, slowl executed, jerky, and incoördinated, but they were no tremulous He could not raise his arms above his head nor could he keep them raised in front of him Even wit his eyes open he failed to touch his nose with his inde finger tip and he stood very unsteadily The sense o position appeared to be unimpaired (cutaneous sensibility not examined) The only vowel he could imitate was A (continental pronunciation), the only consonants S and P His knee jerks were exaggerated, the plantar reflexes were flexor, the abdominal reflexes could not be obtained His pupils were widely dilated but reacted well to light His eyes moved normally His visual fields were somewhat restricted on the temporal side He could not hear a faintly ticking watch, even when in contact with either ear but he heard better by air than by bone conduction His bowels had not been opened since the shock—i.e , for five days He passed urine voluntarily now, but during the journey to the base he was catheterised in the train On my visit the third day after admission he seemed much brighter, and his movements had improved in extent speed and coördination He began to imitate monosyllables, and he explained in writing that he ' cannot think how to speak,' feeling "just like an infant "

By the seventh day all signs of stupor and ataxia had disappeared With great difficulty he managed slowly to repeat after me the names of the county borne by his regiment and of the village in which he lived Next day he could give me these names in response to my questions and could give me the christian names of his wife and child He sweated profusely during these efforts He never spoke of his own accord

Sixteen days after admission his speech was improving but he showed me a report he had written out for me of his condition, and in so doing burst into tears Apparently to-day he had overheard a sister expressing the opinion that he was a malingerer

Under hypnosis he spoke distinctly more fluently, although still with feeble voice power, but on being questioned about trench life he became extremely emotional and suddenly awoke, wiping the sweat from his chest

On the following day, under hypnosis, his speech was at first slow and hesitating, as if he was disinclined to speak Finally after repeated suggestions and encouragement, he was induced to recall the forgotten events on the second occasion of being buried He named the man who pulled him out of the trenches and described the hospital to which he went and his train journey to this base He responded readily to post-hypnotic suggestions that on waking he would remember all that he had told me, would be able to speak louder and more fluently, and would perform certain somewhat eccentric actions

Three days later (three weeks after admission) he appeared a normal man save for slight deafness and the complaint of "coming all over of a shake" when he heard a gun fired He moved and spoke naturally and his spirits were excellent He had no recollection of telling me his forgotten experiences under hypnosis, but he could now recall all that he had told me and more His loss of memory had wholly disappeared save in reference to the two days' wandering which followed the first occasion of burial Under hypnosis to-day he recalled that he spent those days wandering over open country with Lance Corporal ——, that they fed during the first day mainly on potatoes which were cooked for them in a farm by a woman and her husband, that they spent that night in the open, and that they found the French on the following day

He was transferred to-day to a hospital in England

Stupor

CASE 7 (Case number 63) —Private ——, aged 29, admitted into a base hospital and seen by me on the following day He was in a condition of pronounced stupor and had to be repeatedly roused from his apparently dazed condition in order to obtain his attention He could not recall his name, regiment or age He could neither write nor read words, he could name a few letters in very large type, but was liable to confusion Twice he said "water," "comrade," and then made a gesticulation of falling He was not deaf He agreed that a shell came He complained by gesture that he had pains in the forehead His gait was normal but he could not hold his hands out for many seconds without dropping them His patellar reflexes were brisk, his pupils reacted to light normally (Cutaneous sensibility not examined.)

Four days later his condition was only slightly better He had never spoken voluntarily, he was still unable to give his name but he was more readily attentive and replied "Yes" when asked if his name was —— With great effort and after much encouragement he wrote his name Again he complained, by gesticulation of severe headache

On the following day he could give me voicelessly the names of his two children He could still only read capital letters, but once more confused some of them He could not read aloud the figure 2 but could express its meaning by holding up his two fingers The next day he showed me his wife's photograph and with great effort syllable by syllable of his own accord gave me her name

A week after admission, his speech being still extremely limited and laboured and his memory of his recent experiences being still unobtainable, I subjected him to hypnosis, in which state, after much persuasion I induced him to talk about the events that had preceded the onset of his disorder He became very excited, breathed rapidly and made gestures showing the positions of the various items in the scenes he began to describe evidently visualising them vividly Hoarsely and breathlessly he explained in broken sentences how he was in the trenches and was sent to draw water at a pump when two or three shells burst over him, knocking him down This seeming a sufficient recovery on the first trial of hypnosis, he was awakened after certain post-hypnotic suggestions had been made to him, these he carried out He could repeat all he had told me under hypnosis speaking with considerable effort but with far less emotion and with enormously improved fluency and speed He could now give me his home address

Two days later, no further recovery of memory having occurred, I hypnotised him a second time, whereupon he described to me how, after being shelled, he lay on the ground in a dazed condition for some minutes, and how he then rose, picked up the bottles, and returned to the trenches, after which he "lost all sense and reason" He said, "I remember my mates telling me I was silly It was time for us to be relieved at the trenches, but I don't know how I went back with the boys, it was only a short distance to the village After that I remember nothing until you tried to make me speak" By further persuasion I elicited from him full details of the still forgotten interval, how he got back to his billet, took off his equipment, then lay down, and was wrapped in a blanket by one of his comrades "I remember going to the doctors, complaining of a bad headache I remember a jolting ride, and then I lay on a blanket in a big room full of men" By now he recalled the whole of his forgotten experiences, including the train journey down to the base

On the following day, being asked whether he did not feel himself again, he complained that he still wrote with very great difficulty and inaccuracy, that his speech, like his writing was not so rapid as normally His writing was certainly very laboured Consequently he had not liked to write home to his wife, but had been obtaining the services of a fellow patient for the purpose Under hypnosis his speech and writing were restored to their normal rate He learned to say with astonishing rapidity the verses, "Peter Piper picked a peck," &c, and was induced to write a letter to his wife at very good speed Post-hypnotic suggestions that on waking he would repeat these verses and write the same letter to his wife, and that he would hereafter write and speak with normal ease and rapidity, were absolutely successful

He was discharged two days later to a hospital in England and has since been passed for foreign service, occasional severe headache preventing him from active service in the field

General Remarks

Malingering—After nine months of special work in France and Belgium upon these disorders I have not the slightest hesitation in maintaining the genuineness of the cases above described The condition of hemi hypalgesia in Case 4 and the peculiar disturbances of sensibility mentioned in describing Case 5 have occurred in numerous other cases which have come under my observation The persistence of the spasmodic movements during sleep, their confinement to the sartorii, and the spastic condition of the legs in Case 5 also point to the absence of malingering So, too, do the severe constipation and retention of urine in Case 6 and the mode of progress towards recovery in Case 7

Condition before hypnosis—Although these cases have been described under headings which are determined by the most prominent disorders characterising them, it will be seen that certain disturbances are common to all, e.g, amnesia, varying from complete obliterations of the past to obliviscence of the scenes occasioning and following the shock, severe headache, and a mental condition varying from slight depression to severe stupor Disturbances of sensation and movement might be absent or, if present, were extremely variable Mutism, when present, had begun to disappear by the time hypnosis was attempted The stuporose condition was also disappearing by that time

When in a state of severe stupor all that could be obtained from the patient were remarks as to the shelling, as if his condition were due to the concentration of the patient's attention on the scenes which had upset him A little later an alternation of states often occurred One subject, for example, whispered to me, "Did you see that one? It went up on top" "What now?" I asked 'They keep going over," he replied. Unable to catch a remark, I asked, "What did you say?'

"I was talking to my mate" was the reply To my question "What were you saying?" he answered "Get rifles" This patient could be made to realise he was in hospital, but explained his inconsistent behaviour by the remark, "Can't help it I see 'em and hear 'em (the shells)"

In another case of apparent depression accompanied by deafness the latter symptom was found to be very largely due to inattention, his thoughts repeatedly flying to the trenches For a few minutes his attention could be gained, then his answers became absurd, the question "How old are you?" for example receiving the reply, "It passed my right ear" He would often ask me to speak louder when on the point of lapsing into thoughts of trench life In another case the alternation of states was so marked that on being unduly pressed for his thoughts when in a stuporose condition he assumed an attitude of hostility, rushing about the room with an imaginary rifle in his hands

Indeed, in all these cases whenever the memories dissociated from the normal personality were revived they were accompanied by an outburst of emotion, sometimes of frenzy, but generally of fear But in the cases described in this communication it was impossible without the help of hypnosis to obtain any revival of the lost memory Not even in dreams did it return. When such patients endeavoured to think of their forgotten experiences their headache became so severe as to prevent them from further effort When, if mute, they endeavoured to talk they complained generally of a pain in the throat, usually as if someone were gripping their thyroid cartilage

Condition during hypnosis—These pains appear to constitute the guardians of the condition of amnesia, any effort on the patient's part to break down the latter generally resulted in increased severity of the former It is, therefore, not surprising that pains frequently caused the patient to wake from hypnosis as soon as his attention was directed to his forgotten memories or when attempts were made to get him to speak Experience soon taught me that before I could induce free speech during hypnosis I must first dispel, by suggestion, all pain, soreness, or discomfort in the throat, and that before I could hope to revive lost memories during hypnosis I must first suggest the disappearance of headache and prevent the recurrence of any trace of it Even then there was frequently a strong disinclination to talk of the forgotten periods, as if they were being actively inhibited or "suppressed' rather than as if they had been passively "dissociated' When at length this reluctance was overcome the attitude of the patient often changed from depression to excitement, especially when the former condition had been well marked His pulse and respiration increased in frequency, he sweated profusely, and not infrequently showed clear evidence of living again through the scenes which were coming vividly to his mind

Condition after hypnosis—There usually followed a distinct change in the attitude of the patient His previous despondency vanished, he was delighted at having recovered his speech and memory Sometimes the change was so well marked as to appear like an alteration of personality In the case of one patient, for example, who had recovered considerably from stupor and mutism before I saw him, but who was still in a miserably lacrymose and dejected condition, I was able to cure his amnesia by means of hypnosis and to bring about the following changes, the account of which I extract from my note book

During hypnosis I suggested that on waking he would remember the past, forget that he had already told it me, and say that he felt quite fit and ready for a job of work in the hospital This he did, but talking in the same semi stuporose manner as before hypnosis Just as he was going out of the door I clapped my hand on his shoulder and asked, "Now what about those shells, D——?" His manner almost instantaneously changed His voice and way of speaking seemed as if of another person He brightened up as he rattled off a quite coherent and interesting story He bore himself like a good soldier, and returned to his ward, where everyone was amazed at his changed demeanour, and he proclaimed himself quite well

In the four cases described at length in this communication similar but less marked changes followed the awakening from hypnosis Increase in the size of the pupils was also noted in one of them, while in two other cases, not here recorded, the pupils, widely dilated before, now returned to a normal size In another case the patient said that before his memory had been restored to him through hypnosis his mind was continually "rambling" from one train of thought to another, whereas afterwards it "worked as usual" Other post hypnotic changes also occurred in which previous suggestion (during hypnosis) played no direct part The best marked of these was the disappearance of disturbances of cutaneous sensibility (Cases 4 and 5)

The results of hypnotic treatment—At the time of writing[2] I have hypnotised, or attempted to hypnotise, 23 cases of shell shock The conditions under which I worked were such that no patient was subjected to further hypnotic treatment unless he proved readily hypnotisable on the first trial The immediate results may be summarised —

(1) Apparently complete cures	26	per cent
(2) Distinct improvement	26	,
(3) Failure to hypnotise	35	,,
(4) No improvement after hypnosis	13	,,

The patients included under (4) were (*a*) two afflicted with deaf mutism, to whom suggestions of hypnosis could consequently be conveyed only in writing and could not readily be enforced during hypnosis by such relatively ineffective method of communication, and (*b*) one suffering rather from aphonia and incoördination of speech movements than from true mutism, who I suspect artificially maintained, at least in some degree, his symptoms and the hypnotic state into which he seemed to pass

A point of greater interest, however, is the further history of the apparent cures Even in France I had ample evidence to show me that recoveries after hypnosis need not be immediately complete or permanent One case, for example (not included under (1) in the above table), is perhaps worth recording at length

Case 8 (Case number 272) —Rifleman —— aged 30 who was admitted, four days before my first visit to him at the base, into a casualty clearing station, 'having the air of an imbecile and having wandered about in an aimless fashion not knowing where he is or what he is doing, but having a fair knowledge of recent events' On his way down to the base he had passed through another casualty clearing station, where he was described as "remaining absolutely speechless and terrified on being questioned."

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[2] Since this was written I have had opportunities of practising hypnosis on several other cases

On examination I found him in a state of evident terror, but after persuasion he talked (in a faint voice) of his wife, home and previous occupation. He gave the present month as October (actually August), and said that he had been out in France two months (actually 12). He had no recollection of getting to this hospital. He last remembered himself at the trenches, the scenes in which he described with obvious emotion. His mind then wandered to his wife whom he pictured sewing When not actually terrified, he was in a miserably depressed condition

Under hypnosis he remembered going into a dug out after running away from the shells falling in the trenches but he could not recall anything later He could be made to talk in a loud voice, but he awoke spontaneously from hypnosis, with little change save an improvement in his headache

On the following day, when hypnotised, he gave me correctly the present month and the month of his arrival in France, and could give me the names of two towns, Y—— and B——, close to the firing line. On waking he believed himself to be at the latter of these towns He was again much worried about his wife mentioning her christian name and the words "no work." I got him to write a letter to her, the first he had sent her since his illness It was the ordinary letter of a soldier, containing no reference to his condition

The next day he was considerably changed in behaviour and was now active busily engaged in making the beds in the ward. But he was mute (possibly affected by a case of mutism then in the same ward) Under hypnosis his speech returned, and he recalled the immediate cause of his condition, his visit to a horse show at B—— with a man named R——, and his return towards his billet at night when shells began to fall on B—— railway station and something hit his back. He said that he ran to a shed not very far from his billet He was found hiding in the shed that night and was brought into "a sort of hospital" in a motor ambulance After he awoke from hypnosis his power of speech was maintained, but it failed whenever he was asked about the incidents described above After much effort it returned, but his voice was weak and again mutism followed when he was pressed about these incidents

The following morning he awoke, speaking in a normal voice. His neighbour said that he nudged him asking, "Is it me that's talking?" To-day the change in his appearance was still more striking, he was now quite garrulous, and seemed a very intelligent agreeable fellow, whereas before he was depressed and dull His memory was now far more reliable and complete as to his past history

At Y—— he had been in the trenches up to a week before the onset of his present condition He was now able to give me his reasons for worrying about his wife He had only married just before crossing to France, and some months ago he had heard that she was pregnant He had been troubled with the feeling that she was in money difficulties and kept thinking of the experience of a friend whose wife had lost her first baby at birth

Since his return to England this patient has written to me that his recovery has been permanent and, save for occasional headaches complete He is now serving in his reserve battalion

In another case, one of mutism (also excluded from the "apparently complete cures"), hypnosis was followed by a sufficiently complete recovery of speech for the patient to tell me his regimental number, but an hour later he was found to be again quite mute and "as dismal as ever" In this case, however, rehypnosis proved futile He could not even be induced to write during hypnosis, although he had written out his history earlier In my notes he is reported as being "too dazed and unintelligent during hypnosis, bordering, I fancy, on a hysterical attack (he had had two 'fits' while in the trenches), frequent tremors and clonus of arms"

Yet another patient completely recovered from his depression and amnesia at the first trial of hypnotic treatment, but was accidentally discharged from hospital on the following day by a medical officer who, judging from the patient's appearance and in ignorance of his past condition, pronounced him fit for duty Two days later he was re admitted to hospital in the same stuporose, depressed, lacrymose state as before

These and other cases show that hypnosis is of relatively little value when the condition of stupor is too profound, and that any subsequent worry (e g, over home affairs) or terror (e g, of scenes of the trenches or of returning to the front) is apt to induce a relapse Accordingly, nearly all the severer cases of shock which I have seen have, at my advice been sent to England

The value of hypnotic treatment—Despite the slow progress just recorded in certain cases, I have not the least doubt that the hypnotic treatment which these and other cases received here invariably proved of great assistance towards recovery, and would have proved of still greater value if it could have been occasionally repeated later It may be argued that mutism, rhythmical spasms, anæsthesiæ, and similar purely "functional" disturbances disappear after a time without specific treatment But no one who has witnessed the unfeigned delight with which these patients, on waking from hypnosis, hail their recovery from such disorders can have any hesitation as to the impetus thus given towards a final cure More especially is this the case in regard to the restoration of lost memories Enough has been already said here about the striking changes in temperament, thought, and behaviour which follow on recovery from the amnesia

To go further into the subject would involve detailed consideration of the rationale of hypnosis in such cases, but this can be more conveniently postponed to a separate communication devoted to the psychology of shell shock generally Nevertheless, surely this much may be taken for granted here, that the restoration to the normal self of the memories of scenes at one time dominant, now inhibited, and later tending to find occasional relief in abnormal states of consciousness or in disguised modes of expression—such restoration of past emotional scenes constitutes a first step towards obtaining that volitional control over them which the individual must finally acquire if he is to be healed Thus the minimal value that can be claimed for hypnosis in the treatment of shock cases consists in the preparation and facilitation of the path towards a complete recovery

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BRITISH FIRE PREVENTION COMMITTEE —The activities of the British Fire Prevention Committee for the year just brought to a close include the preparation and free issue of a large number of public "fire warnings" in the form of posters, circular letters, or as notices Special notices were issued for hospitals, convalescent homes, refugee hostels schools billets, factories, and farms, whilst air craft hazards were dealt with on general lines The total issue exceeded 250 000 At the outbreak of the war a special fire survey force of 100 surveyors was formed to undertake at short notice, and in an honorary capacity any fire surveys required by the Government The results of the work have been far reaching The greater care taken by the public to prevent outbreaks of fire by sensible and inexpensive precautionary measures has been most marked, as also the effort to meet fires with organised self help and simple hand fire appliances A material reduction of the annual fire loss during the war has been achieved The loss of life from fire has been reduced, and large quantities of produce and goods important to the conduct of the war have been thereby preserved

THE ADVANTAGES OF WARM ANÆSTHETIC VAPOURS, AND AN APPARATUS FOR THEIR ADMINISTRATION

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"Open ether" suffers from certain defects which detract much from its value and cannot be ignored. To avoid misunderstanding it is well to state at once that by this term is meant that method of anæsthesia by which ether is dropped (more or less) continuously on to some fabric spread over a mask which is so closely applied to the face that the whole of the air current, in both directions, passes through the fabric. Its chief defect is the lowering of the temperature of the inhaled mixture of air and ether due to the coldness produced by the evaporation of ether and the tendency to the formation of frost on the mask. This lowering of temperature is progressive, and may continue until the inhaled vapour may be 30°–40°F. below the temperature of the room. Cunningham and Anderson, indeed, have stated that in a room at 80°F. with the "open" method a 2.1 per cent. ether vapour reduces the temperature of the inhalations to 30°F., a 5.4 per cent. vapour to 9°F. If these figures as applied to the "open" method described above are correct, they are startling, but in any case every anæsthetist is aware that the vapour inhaled is chilled and that the temperature within the mask often reaches a low level. Evidence is adduced in this paper to show that the inhalation of such a vapour, besides having other consequences, reduces the body temperature to an extent which may no doubt be of comparatively small importance in many surgical operations, but in a great number, and especially in unfavourable cases where any adverse factor is of moment, must lessen the patient's chances of recovery and may increase the risk of pulmonary complications.

It is, further, a practical disadvantage of the method that saturation of the fabric and freezing of the moisture of the breath interfere with the free intake of anæsthetic and therefore with the smoothness of anæsthesia, and sometimes with a proper depth of anæsthesia. It is probably for this reason that some anæsthetists profess that they cannot obtain in all cases good relaxation with "open ether," and are loth to abandon the Clover.

It is only within recent years that scientific study has been given to the warming of anæsthetic vapours. It is true that it is one of the advantages of the Clover and other rebreathing inhalers that the patient inspires a warm vapour, and it has been asserted for this reason that Clover and the anæsthetists of his day recognised the importance of this subject, but it is clear from a study of their original articles that this is a mistaken idea if care be taken to distinguish between the measures which were employed to warm ether vapour in order to aid the administrator and the efforts which are made by the latter day anæsthetist in order to benefit the patient. THE LANCET,[*] in describing Clover's apparatus as "the only one entirely approved by the Chloroform Committee of the Royal Medical and Chirurgical Society," says nothing of the temperature of the vapour. Clover, in describing his double current inhaler,[2] says that "the supply of ether vapour" is "rendered more uniform by attention to its temperature which was kept within limits by causing the expired air to pass through the ether vessel in a kind of worm"; again,[3] he provided in his second model "a reservoir of water to prevent the temperature of the ether becoming too low." In his account of his portable regulating inhaler[4] he also discussed this subject and decided to use a water chamber surrounding the inhaler as the most convenient plan. Hawksley[5] introduced an inhaler at about the same time, the ether bottle of which was "half immersed in water heated to 100° F. in order to promote a more rapid and equable evaporation of the ether." No mention is made in any of these articles, nor in the description of the Ormsby inhaler (1877) of the value of warmed anæsthetic vapours to the patient, and no attention is given to this subject in the latest editions of the works of Sir Frederic Hewitt and Dr. Dudley Buxton. It is clear that in nearly all cases the patient did inspire a warm vapour, for he breathed backwards and forwards into a bag and in the early days it was a common practice to wring a sponge or cloth out of boiling water, but it is equally clear that what Clover, Hawksley, and the others aimed at was the prevention of excessive cooling of the ether or actual freezing of the sponge which would interfere with the supply of the anæsthetic. It is interesting, on the other hand, to find in Dr. Foy's "Anæsthetics Ancient and Modern" an illustration (p. 141) of a nitrous oxide apparatus, made by Messrs. Arnold, in which the agent is warmed by being passed through a hot water chamber, and the author tells me in a private communication that it is just possible that the above facts were familiar to the makers and influenced their design of the inhaler.

Anæsthetists have from time to time warmed their agents, but it was the advent of "open ether," with its prominent defects, that induced some specialists in this branch of surgery, notably Gwathmey,[6] to study fully the subject of the warming of anæsthetic vapours. Various devices have been already used in order to remedy these defects—e.g., cones of different patterns and the Ferguson mask—but they have never been wholly satisfactory, for they are really semi-open inhalers, and if they impart a certain amount of warmth and save a certain amount of anæsthetic they introduce at the same time an undesirable degree of rebreathing. Gwathmey[6] and Davis[7] attacked the problem on scientific lines, preserving the open character of the anæsthesia and investigating the effect of warm vapours on patients and on animals. As a result of their researches they have reached some important conclusions and have made a notable advance in the science of anæsthesia. Coburn,[8] Pinneo,[9] and others have introduced apparatus for delivering warm vapour, in addition to the names already mentioned, that of the former being applicable to either "open" or closed ether. The anæsthetists who have devoted themselves to the study of nitrous oxide and oxygen for use in general surgery, the pioneer of whom is Teter,[10] are almost unanimous in advocating the warming of these gases; their example has been followed by my colleague, H. M. Page, who has also added a simple warming chamber to Crile's nasal tubes.

Although the case for warmed vapours has been subjected to a certain amount of criticism,[11] which seems to be ill founded, the evidence on which it is based is too strong to be upset Experimental and clinical observations of Davis and Gwathmey are mutually confirmatory The latter[6] investigated this subject fully in animals, using chiefly chloroform and nitrous oxide and oxygen, administering them at room temperature and at a temperature of 100° F, and noting their effect under these conditions with reference to such questions as safety and maintenance of body temperature He found that these anæsthetics are much safer when administered at blood temperature—e g, whereas it took 6 57 minutes on the average to kill 16 animals with chloroform at room temperature, it took 20 35 minutes to kill 17 animals with warm chloroform. Similar results were obtained with nitrous oxide and oxygen, death occurring more quickly when the gases were administered at room temperature, the action of the heart and the respiration were also more irregular Nitrous oxide and oxygen at a temperature of 33°–34° F caused death in a much shorter time. Fewer experiments were made with ether, but enough to convince Gwathmey that warm ether vapour is twice as safe as cold He concludes that all anæsthetics heated to the temperature of the blood are increased in value as regards life without their anæsthetic effects being decreased

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[*] THE LANCET, Dec. 17th, 1864, p. 693.

As regards the maintenance of body temperature Gwathmey's conclusions have been confirmed by the work of Davis,[7] whose observations have a particular interest for the anæsthetist who uses 'open ether ' It has long been known from the investigations of Kappeler, Allen, and others that the temperature of the anæsthetised person falls, due chiefly to diminished oxidation and to the interference with the heat regulating centres The fall is greater in proportion as the operation is protracted, or large surfaces of the body are exposed, or the loss of blood is considerable, and may be of great importance in feeble, very young, or elderly patients, particularly if no special precautions have been taken to cover up all parts outside the operation area. Davis supports the work of the earlier investigators, and points out that the method of anæsthesia has more influence upon the maintenance of the body temperature than is commonly supposed to be the case He found that in 140 patients anæsthetised by the "open" method there was an average loss of temperature of 1 02° F, as against an average loss of 0 29° F in 26 patients anæsthetised by warm vapour, the temperature was taken by the rectum immediately before and after anæsthesia. In 5 cases in which a large surface of the body was exposed, the anæsthetic being "open ether," the average loss was 1 98° F, in 6 cases under similar conditions, except that a warm vapour was given, the average loss was 0 77° F There was a loss of 2 99 F after appendicectomy and removal of one ovary in a patient who during 1¼ hours lay on a cold table the abdomen having been flushed with fluids and covered with wet towels, these conditions are to be found less frequently to day, but they still occur on a smaller scale in a certain number of abdominal operations It is a good plan to change towels which have become wet with saline or lotion during a protracted operation, for if allowed to remain they have the same evil effect as the towels wrung out of antiseptic which were formerly used to surround the area of operation These results of Davis are important, and he concludes from his observations and from experiments on animals that warming of ether vapour before inhalation will prevent loss of body temperature, or may actually increase it in a degree proportionate to the temperature of the vapour and also to that of the operating-room. Undue elevation of the temperature from this source is injurious With regard to the effect of morphine, he states that the previous administration of this drug does not greatly increase the loss of body temperature caused by ether Excessive application of heat to an individual under morphine will lessen the usual loss of heat, the additional administration of ether in these circumstances may lead to a rise in body temperature rather than to the expected fall

Davis raises a subject of some controversy when he discusses the optimum temperature of the operating room for he favours a temperature of 80° F or over, showing, as is only to be expected, that the higher the temperature the less is the loss of body heat It is doubtful, however, whether his view will be generally accepted High room temperatures lead to sweating and exhaustion, not only of those taking part in the operation—a matter of some importance in hospital work with a lengthy list of operations—but of the patient Sweating is particularly harmful to the patient, both because he loses fluid and because he is chilled by contact with wet garments The most rational procedure would seem to be to maintain a moderate temperature of 65°–70° F, to keep the patient warm and dry, and to prevent as far as possible the loss of body heat by the use of warm anæsthetic vapours Nearly all patients complain of feeling chilled on recovery from an anæsthetic, and the change from the warmth of the operating-room to the lower temperature of the ward or bedroom, especially if cold passages have to be traversed, is a greater tax on the recuperative powers if the thermometer in the former has stood at 80° F or higher Dastre stated that the temperature falls more rapidly with ether than with chloroform, but Davis finds that chloroform produces a loss of body heat approximately equal to that of ether

In addition to the defects of "open ether' already described, the waste of ether is a disadvantage, its extent depends upon various factors, and is unavoidable if this method is strictly followed. Another disadvantage is the diffusion of much vapour into the room, to the discomfort of everybody present The last of the objections to "open ether" which it is proposed to discuss has been raised by Yandell Henderson[12] It is that hyperpnœa may be produced, followed by acapnia which, he says, is the cause of shock Henderson believes that this sequence of events often occurs where a too "open" method is used, where, on the other hand, a considerable degree of rebreathing is allowed and the anæsthesia is in reality a good "closed ' ether—e g, where a towel is used in the form of a cone—the patient comes through the operation with excellent colour, warm dry skin, quiet breathing, and strong pulse He advocates strongly a return to "closed' ether, and owing to the vigour of his pleading and the known importance of carbon dioxide, "open ether" is losing some of its popularity in the country of its origin. It has not been shown, however, that the acapnia theory has gained universal acceptance or even received that measure of support which must be forthcoming before Henderson's conclusions can be allowed to dominate anæsthetic practice Whilst it is true that acapnia may, or does, occur under certain conditions of ether anæsthesia, it would be an exaggeration to say that it occurs commonly in English practice or to such a degree that it is of serious or even of any import In fact, "open ether," not being open, compels a certain amount of carbon dioxide retention (which is kept within reasonable limits), and as it is usually preceded by an injection of morphine which depresses the respiratory centre, in some cases markedly, so that there is a difficulty in obtaining deep anæsthesia except after some delay, it is evident that hyperpnœa is an uncommon phenomenon The danger of acapnia is not so likely to arise as that of excessive retention of carbon dioxide, for the anæsthetist wishing to prevent the wastage of ether is tempted to use some device to overcome it, with the result that the "open" becomes to all intents and purposes a "closed" ether, with a corresponding deterioration in the quality of the anæsthesia The patient is a little cyanosed, there is some congestion, and breathing is a little hurried or even laboured The chief advantage of the "open" method—viz , free interchange of air—has been lost

We see then that, however skilfully administered, "open ether" places the anæsthetist in a predicament He must choose one of three courses either he must submit to the defects and difficulties of this method, or he must give it up entirely and revert to a rebreathing method, or he must endeavour to find a method which is an improvement upon both If we admit the views of Yandell Henderson, and agree at the same time that "open ether" is economical neither of body heat nor of anæsthetic, we shall have to follow his advice to restore "closed" ether to its former position This solution seems to be entirely wrong, for his views are non proven and our aim is progress, we have only just emerged from darkness and found light, and it would be folly to throw away the advance gained in recent years We can take yet another step forward by adopting an improved "open" method—viz , "warm vapour anæsthesia," by which is meant a system which applies to ether (or mixtures of chloroform and ether), the principle of the Junker, with the addition that the vapour is warmed and is of suitable concentration to be used in general surgery The idea of using ether in a Junker bottle is not new, for Tyrrell[13] in 1897 showed a method of adding ether vapour during chloroform administration, calling it a 'double bottle method" Stock[14] also utilised this idea, and determined the percentages of ether and chloroform which he was able to administer, and Apperly[15] introduced a simple and practical apparatus for vaporising ether for use in nose and throat operations, but none of these apparatus deliver a warm vapour or were intended for the maintenance of ether anæsthesia in general surgery

Warm vapour anæsthesia has been used for some years in America, my own experience of it dates from October, 1914, when I was able to procure what I think is a suitable apparatus It is an "open" method in which the patient breathes *from* an atmosphere of warm ether vapour and air instead of inhaling cold vapour *through* a fabric It preserves the best points of "open ether"—viz , simplicity, free respiratory exchange, and equable dosage It is economical of ether, since the patient receives at each inspiration a suitably adjusted and practically constant percentage, no ether is lost by evaporation and very little during expiration It solves partially for those anæsthetists who do not use intratracheal insufflation the difficulties of anæsthesia in patients lying in awkward positions. Further, it enables the anæsthetist to be more out of the way of the surgeon and to be less hampered in his work than when he is using a drop bottle

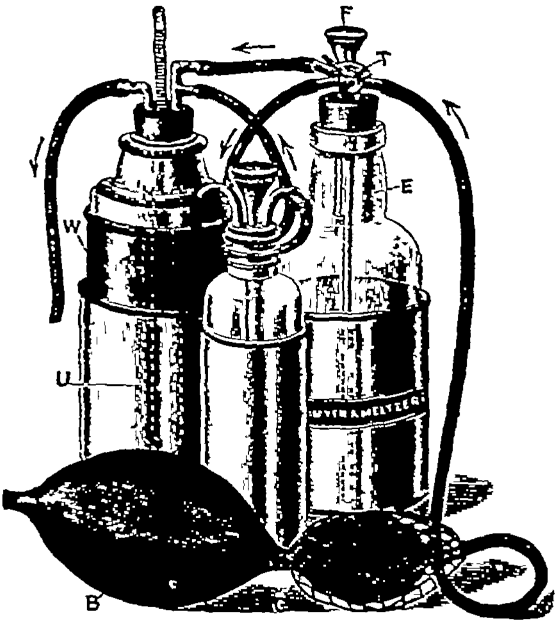
In addition to these advantages, warm vapours are more pleasant to inhale and are more readily absorbed by the blood, so that anæsthesia is induced more quickly and more quietly and can be made to reach a more profound depth in a short time Teter[16] found that of 40 women who inhaled warm nitrous oxide (90° F) many were unconscious after two or three breaths, whilst if cold nitrous oxide were given the majority were conscious up to the tenth, and some up to the twentieth, breath. Ether vapour when warmed is less disagreeable to inhale and is less irritating, so that it causes less secretion of mucus and saliva. Nausea and vomiting are stated to occur not so frequently, but large numbers of cases must be compared before this claim can be considered to have been definitely proved My own impression is that vomiting is slightly less, but "open ether" has given us very good results upon which it will be hard to improve Certainly smaller doses of atropine can be used Another advantage of the decreased irritating effect is that muscular spasm and congestion of the upper air passages are considerably diminished Breathing is calmer and slower and very similar to the chloroform type, so that it is easier to secure quiet anæsthesia and good relaxation in difficult subjects I find that an 'airway" is seldom needed, either nasal respiration is adequate or a mouth prop which separates the jaws to a slight extent, secures the desired type of breathing There is not the same objection to the use of an artificial airway as in "open ether," where it introduces a cold vapour directly into and on to the laryngeal opening, increasing the risk of bronchitis, and I believe the liability to laryngeal spasm

I wish to lay stress upon the superiority in the type of anæsthesia produced by a warm vapour, because my experience with this method has now been sufficiently large for me to speak with confidence, and because ease of breathing and the elimination of the asphyxial factor resulting from even a slight degree of obstruction are of such importance in the prevention of shock Experience teaches this lesson daily, and intratracheal insufflation has proved conclusively that if there is one cardinal principle of anæsthesia which should be emphasised it is the value of a free airway and of complete *oxygenation*.[17] For these reasons, and because the loss of body heat is less with warm vapours, shock should be, and in my experience certainly is, diminished Patients recover perhaps a little more quickly, this, again, is only to be expected, and Gwathmey's experiments point to the same conclusion, although their number is too small to be conclusive

It seems likely that lung complications will be less frequent, not only because the loss of body heat is smaller and the patient's powers of resistance are therefore better conserved, but because the respiratory passages are not so liable to become invaded by mucus or to become infected owing to chilling It may be that the warm ether of this method will have a wider field of usefulness, but it would be well at a time when there is a tendency to give ether to patients usually considered unsuitable for this anæsthetic, and a certain number of avoidable cases of bronchitis occur every year, to proceed with caution in this direction

Since I have been using this method it has struck me very forcibly how much the idea of warming anæsthetic vapours, especially ether, appeals to onlookers, who cannot have failed to notice the low temperatures produced by the "open" method, and how wrong we have been, and still are with our present knowledge, in allowing our patients to inhale these cold atmospheres It seems undeniable that this position is no longer justified We must teach the principle of warm vapour anæsthesia and turn our energies to the development of this method along scientific lines and to the production of simple and practical apparatus The administration of warm nitrous oxide and oxygen does not come within the scope of this paper

The apparatus which I use consists of four principal parts—viz. B, A hand bellows of large capacity, E, an ether bottle, C a Junker chloroform bottle, and W, a warming chamber (vacuum flask) E, C, and W are contained in metal stands connected together, that of C being detachable, and as well as that of E being of larger diameter than their respective bottles, so that they act as water jackets to prevent excessive cooling of the anæsthetic



In the cork of E are (1) An efferent tube, (2) a filling funnel (F), and (3) a regulating tap (T), the long limb of which is plunged into the ether, perforations at the end of this limb break up the air current and prevent splashing of the ether To the proximal of the two short limbs of T is attached the hand bellows, the distal is connected by rubber tubing with the afferent tube of C The efferent tubes of E and of C are connected by tubing to two branches on the afferent limb of U, which is a metal U piece immersed in the warm water of W The delivery tube of U carries 30 inches of rubber tubing

By regulating the lever of T air can be pumped (a) through E, (b) through C, or (c) in varying proportions through E and C at the same time, so that the vapour of ether of chloroform, or of mixtures of the two can be given The anæsthetist will find it a great convenience if he is using chloroform and the colour is pallid or the breathing weak, to be able to add ether or substitute it entirely for a time A very strong ether vapour can be obtained and can be made still stronger by placing warm water in the jacket The hand bellows is of such a size that it fills the hand comfortably, and continuous pumping is not wearisome By squeezing it regularly with inspiration the anæsthetist soon acquires the habit of delivering a practically uniform dosage He has two means of altering the strength of the vapour, one by regulation of the tap, the other by varying the vigour of his squeezing Regularity of administration means evenness of anæsthesia, and this means an anæsthesia which can be kept lighter and yet efficient A foot-bellows can be used if it is desired to give ether for nose or throat cases, as suggested by Stock,[11] or can be substituted for the hand bellows in all cases, this particular pattern gives a continuous stream of air, and is therefore of advantage in that the anæsthetic is supplied in a more constant percentage than is possible with a hand bellows There are points for and against its use, and I have decided to employ it only in the special cases mentioned if intratracheal insufflation is not required

About 6 or 8 ounces of ether should be placed in E, to empty it remove the stopper of F and slip off the tubing from the ether efferent tube, which then can be used as an outlet If chloroform is not wanted, C and its jacket can be detached altogether if desired, the distal limb of T is then connected with the free branch of U In this case all the air can be pumped through E, or any part of it, the rest going on to W It has been my aim to make the apparatus as simple as possible, it is efficient and easy to use The anæsthetist is independent of electric or other systems of heating, and can depend upon the temperature of the vapour remaining remarkably constant for a considerable period, it is very seldom necessary to change the water in the flask

Anæsthesia is induced in any way thought desirable My own plan is to give a preliminary injection of atropine, with or without morphine and scopolamine, and to induce with chloroform or a mixture, using a drop bottle or the apparatus, in the latter case the end of the delivery tube is placed under the mask, which holds in its place, or passed through the domette covering it It should not be attached to any connexion or metal tube, or much of the heat will be abstracted from the vapour, ether vapour quickly picks up and quickly loses heat Beginning with chloroform, after a little time a mixture weak in ether can be given, then less chloroform and more ether, until finally pure ether is being administered. If induction is accompanied with struggling or with raising of the head and shoulders it is advisable to use a drop bottle until quiet is obtained, the vapour method can then be used again In whatever way induction is accomplished, when the time has arrived for the introduction of the warm ether vapour a flannel pad with opening for the nose and mouth is laid upon the face, the end of the tube is slipped under the pad, and a Schimmelbusch mask with two layers of domette is placed on top of it For children or weakly patients one layer of domette is sufficient Ether is pumped in cautiously, beginning with a weak vapour and gradually increasing the strength as tolerance is established, until the proper degree of anæsthesia is obtained Occasionally it may be necessary to pump continuously for a short time, but, as already stated, regular pumping with or just before inspiration is best For mouth cases the tube is placed in a curved metal holder which rests between the teeth, or is attached to a soft rubber catheter which is passed down the nose to the edge of the soft palate

The *longest* anæsthesia in my series of cases, which includes practically every operation, lasted 3 hours and 22 minutes, the operation being for removal of a malignant growth of the bowel from a young woman who had lost 3 stones in weight, was toxic and anæmic from malnutrition, 6 ounces of ether were used, the average temperature of the vapour being 86° F This was a smaller consumption than usual, the patient being an easy subject to anæsthetise, but I feel that "*open ether*" could not have given me such a good result nor such a good recovery as was made, and I doubt very much whether it would have been wise to give a cold vapour, especially to this patient, for such a long abdominal operation

The details of the following cases give a rough idea of the amount of ether used in different patients and operations —

1 *F*, 29 vigorous, alcoholic Morphine gr 1/6, scopolamine gr 1/150, atropine gr 1/120. Struggling during induction with C E Appendicectomy, rectus incision Deep anæsthesia, especially for suturing abdominal wall 50 minutes, 4 ounces of ether

2 M, 47, big powerful navvy, thick neck, double chin Morphine, &c, as in Case 1 Induction with C E and "open ether", rather violent struggling, quiet easy anæsthesia Plating left tibia 46 minutes, 4 ounces 2 drachms of ether

3 M., 16, tall, weedy Morphine gr 1/8, atropine gr 1/150 A.C.E for induction Appendicectomy, followed by radical cure of left inguinal hernia 33 minutes, 2 ounces 6 drachms

4 F, 39, slight build Morphine gr 1/6 atropine gr 1/100 Induction with C E *Colectomy* Deep anæsthesia during whole operation, *patient rather resistant to* anæsthetic 1 hour 36 minutes, 5¼ ounces Condition very good at end; patient warm and dry, pulse 76, good quality A very similar result had been obtained a few days before in a young woman aged 22, colectomy, 1 hour 49 minutes, pulse at end 80 These and several other similar cases have helped to strengthen my feeling that it is a distinct advantage to warm the vapour of ether, chloroform or of mixtures of the two

5 M, 29 strong, active, intelligent nervous temperament Morphine &c, as in Case 1 Sleepy Easy induction with C E Exploration of abdomen, mid line incision, followed by appendicectomy through same incision Very difficult to obtain good relaxation at first particularly during suturing of abdominal wall, peritoneal reflexes being strong, anæsthetic pushed, no corneal reflex pupil big jaw muscles slack. 1 hour 9 minutes, just over 4 ounces of ether used

Careful tests have been made of the ether before and after use by the methods described by Finnemore[17] No aldehydes have been found on any occasion, even after air has been pumped through the ether for several hours and although peroxides were shown to be present The test for the latter impurity in the new British Pharmacopœia is very stringent, so that Finnemore says that freshly distilled ether will probably be found deficient after being kept for a month It is obvious that only very few ethers can comply with this test, and although it is theoretically desirable that peroxides should be absent, it is not always practicable, and as long as they are only present in small amount, and aldehydes are completely absent, the ether can be safely used My practice is to use the same ether *twice*, as many tests have shown me that it is only occasionally that peroxides are present after the *first case*, and then in very small amount

At what temperature should the vapour be delivered? There is no need to warm it artificially in very hot weather above the room temperature, in cold weather 85°–90° F will give good results, the higher level being better for patients who are feeble or shocked, or for operations which involve much exposure and loss of heat or much bleeding Too much heat produces sweating and flushing of the face and neck, and an unusual amount of bleeding in the wound, due to dilatation of cutaneous vessels The following observations illustrate the results that may be expected at different room temperatures, and with water at different temperatures —

	Room temperature	Water in flask	Temperature of ether vapour at end of 30 in. of rubber tubing
1	82° F	102° F	87° F
2,	75°–76°	96°	82°
3,	71°	105°	86°
5 *	67°	133°	90°

Compare with the following, and note the steady level maintained —

4	2.35 P M,	67 5° F	117° F	86° F
	2 40 ,,	68°	116°	86°
	2.45 ,,	,,	116°	87°
	2 50 ,,	,,	115°	86°
	2 55 ,,	,,	113°	86°
	3 00 ,,	,,	112°	85°
	3 50 ,,	,,	111°	85°

* This result appears to contradict No 4 but was taken after a slight alteration had been made in the apparatus which has the effect of lowering a few degrees the temperature of the vapour In other words, results 1 2 3, and 4 are not strictly accurate but serve as guides

My thanks are due to those members of the staff of Guy's Hospital who have allowed me to use notes of their cases The apparatus is made by Messrs Mayer and Meltzer, Great Portland street, W, who have taken great pains in carrying out my ideas

Bibliography —1 THE LANCET Dec. 17th 1864, p 693 2. Brit Med Jour March 15th 1873 p 282 3 Ibid July 15th 1876 p 74 4 Ibid., Jan 20th 1877 p 69 5 Ibid August 7th 1875 p 177 6 Med. Record Oct 14th 1905 p 609 New York Med Jour June 1st 1912, p 1130 7 Johns Hopkins Hosp Bull April 1909 p 118. 8 Jour Amer Med Assoc. March 23rd 1912, p 833 9 Ibid Nov 23rd 1912 p 1862. 10 Ibid p 1849 11 Interstate Med Jour September 1911 p 927 12 Amer Jour Physiol February 1908 p 126, and other papers in the same journal in 1909 1910 13 Trans Soc Anæsth 1898 vol i p 1 14 Brit Med Jour Sept 17th 1910 p 736 15. Proc Roy Soc. Med Anæsth December 1913 p 14 16 Brit Med. Jour Dec 27th 1913 p 1621 17 Proc Roy Soc. Med Anæsth March 1915 p 1

Queen Anne-street W

FLORA OF WOUNDS AND FLORA OF PUTREFACTION

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IT seems established that wound infection goes through three phases —

1 *A phase of numberless microbes, amongst which B coliformis[1] are to be found* —This group of microbes has not been described as a constant finding, but that, I believe, is mainly due to the fact that the soldiers come for observation too late, and the phase is one which passes quickly (It is a pity that from the available literature it is not possible to see to what extent the B paratyphosus and paracoli group have been found in wounds and what part they play)

2 *A phase in which the B coliformis disappear and the field is occupied by the anaerobic microbes*

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[1] When I say B coliformis I exclude the B proteus and B pyocyaneus for reasons clear to understand

of putrefaction.—B perfringens [Welchii], Sporogenes, B X of Fleming,[2] B tetani [3] and others This group has been constantly found

3 *A phase of the reduction (most probably the pathogenic flora) in which cocci (streptococci [4] and staphylococci) only are present*

The phases which I have previously described [5] as occurring in putrefaction of the intestinal wall and of the fæces were summarised as follows (*a*) A phase in which the B coliformis became predominant and very active (*b*) A phase of the anaerobic ferments B coli disappears completely and leaves the field free to the anaerobic organisms (*c*) A phase of the aerobic ferments The anaerobic ferments have now completely disappeared and instead are found cocci and microbes of the B subtilis group I also established the fact that when B proteus or B pyocyaneus was present at the beginning of the process they persisted throughout the stage of putrefaction I am of opinion that the coliform organism, described in wounds in the late phase, is one or other of these two microbes

Of great interest are the findings of A. Fleming,[6] who has worked at the anaerobic organisms of wounds He describes, amongst others, the so called "wisp bacillus" and a Gram negative anaerobic bacillus (p 642), also an anaerobic streptococcus [7] The first is the B ramosus or a member of its group The second is very probably the B fragilis Both have been described by Veillon[8] as constantly present in acute appendicitis I have frequently isolated these organisms from cases of appendicitis, and in two instances from fæces Both organisms give rise to considerable pus formation Fleming's observations are interesting, first, because these microbes seem capable of true pathogenic action, and, secondly, because I have stated my opinion that they are normal inhabitants of the human intestine, in spite of the fact that it is difficult to isolate them from fæces

It would seem to be established from what has been stated that—

1 A true putrefactive process, comparable to that which takes place *in vitro*, occurs in the wounds and that the three phases succeed each other in the wound as they do *in vitro*

2 The fact of the presence of human intestinal flora at the beginning of the wound infection shows that the soldiers are infected from *fresh human fæces*

As regards the first point, why should these same phases occur in putrefaction and in the wounds? There must certainly be some biological law which regulates the appearance and disappearance of the microbes Two hypotheses may be considered First, that there is a nutritive mechanism which regulates the phases This suggestion is without any experimental basis, because, for example, B coli thrives very well on split albumin rendered soluble by B putrificus But, notwithstanding this fact, B coli dies after a certain cycle and gives place to the putrefactive organisms The second hypothesis is that the secretion products of certain organisms are dangerous to, or possibly stimulate the appearance of, others Experiments *in vitro* do not uphold this explanation Besides, if this hypothesis be true, why should organisms die in groups? On the other hand, if we follow the process of putrefaction we see that Phases 1 and 2, above described, present a common character—the enormous activity of the predominant microbes The more active they are the more freely they produce toxins, ptomaines, &c, which, as is known, endanger their existence In fact, the duration of life of a microbe is closely related to its activity, the products of its metabolism, and the mechanism of drainage These facts and considerations of biological nature lead me to conclude that the very activity of those microbes in the different phases of putrefaction or in the process occurring in wounds brings them direct to suicide The organisms which never die in the putrefactive process or in the wounds are the streptococci which at no stage in either case exhibit much activity

As regards the second conclusion—viz, that the infection in trenches is due to fresh human fæces—I was able through the kindness of Colonel D Hepburn, R A M C (T), commanding the 3rd Western General Hospital (Professor of Anatomy, University College, Cardiff), to make some inquiries amongst wounded soldiers They all told me that the rules about defæcation are very strict, that the fæces are disinfected, but that nevertheless the men often defæcate in the open I was told that cleansing after defæcation could not always be carried out owing to lack of paper It is easy to imagine the case of a soldier who has a wound and anal pruritus Digital conveyance under these circumstances readily occurs and a complete cycle of infection is set up (It would seem to be an easy matter to distribute a small bottle of lysol solution and a sponge)

There is, from these observations, good reason to believe that either the occurrence of defæcation in the open, or inefficiency of sterilisation of fæces, or personal filth has some relation to the described bacterial flora in wounds The phases described necessarily take a certain period of time for their completion, and this is one of the reasons why specific therapy has given unsatisfactory results The sequence is still somewhat obscure and demands further investigation, but, of course, prevention of wound contamination by fæcal material ought to be aimed at

University College Cardiff.

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[2] Fleming's B X is the B anaerobicus alcaligines which was described by De Bono in the Centralblatt für Bakteriologie vol lxii 1912, Heft 3/4

[3] B tetani has been frequently described in the wounds although no clinical evidences of tetanus may have been observed Attention may here be drawn to B putrificus filamentosus for example which morphologically closely resembles B tetani (Centr f Bakt vol lix 1911)

[4] Sir A E Wright points out that the streptococcus isolated in wounds has not the same character as the S pyogenes It has a saddle-bag shape This streptococcus is a common organism in fæces but it is not the S fæcalis In order to isolate this wound-streptococcus I proceeded to incubate fæces to the stage of putrefaction and when all other microbes had disappeared I was able to isolate on Drigalski three or four different kinds of streptococci In many cases a streptococcus was obtained which was without action on lactose This work was communicated to the Centralblatt für Bakteriologie just before the war and I am unable to say what has become of the article (See THE LANCET Oct 30th 1915, p 959)

[5] Centr f Bak vol lxii Heft 3 4

[6] THE LANCET Sept 18th 1915 p 638.

[7] This streptococcus was first isolated by Jungano from fæces and urine Owing to a printer's error it was not included in our book Les Anaerobies" (Masson Paris 1910)

[8] Les Anaerobies, Masson Paris 1910

MEMORIAL TO THE LATE MAJOR E. B STEEL, R A.M C —At Dr Steevens' Hospital on St Thomas's Day, Dec 21st, the Archbishop of Dublin dedicated a lectern placed in the chapel of the hospital by the governors and staff to the memory of Major Steel, who died on Nov 23rd 1914, from wounds received in action An obituary notice appeared in our columns (vol ii, 1914, p 1388) For several years he was a resident pupil at Dr Steevens' Hospital, and the thoroughness of his work and sterling qualities of his character endeared him to a large number of friends

THE SIMPSON LIGHT

ITS NATURE, MODE OF PRODUCTION, AND APPLICATION, WITH A PRELIMINARY NOTE ON ITS THERAPEUTIC PROPERTIES

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WHAT is known as the Simpson light is the light emitted from an electric arc formed between electrodes of special composition These electrodes are made by a special process from a mixture of the ores of certain metals, the chief one being a tungstate of iron and manganese, known as *wolfram* These electrodes are the special feature of the Simpson lamp, and they confer upon the light the properties that distinguish it from that produced by the more familiar type of arc lamp, in which the electrodes are made of gas carbon

Mr Simpson, who was making a research on the affinity of rare metals for each other, noted that the light produced by the electric combustion of certain ores had "curative effects on the workmen's hands" He then proceeded to prepare from these ores electrodes suitable for combustion in an electric arc lamp This proved to be a very difficult matter, and the most suitable composition has not yet been fully determined To procure steady combustion in the arc has been the most difficult problem

Nature of the Simpson light—The Simpson light is made up of rays of two kinds 1 *Visible rays* These are the visible rays of the luminous spectrum, violet, blue, green, &c, down to red, these rays together produce white light 2 *Invisible rays* These are *heat rays* and *ultra violet rays* It is to the latter that the therapeutic properties of the light are mainly due The physical properties of the light have been investigated by Professor Burstall and Professor Horton Professor Horton reports that the arc is an "extremely powerful source of ultra violet light" This was tested by experiment A spectrum of the light, obtained by means of a quartz prism, was cast on a sheet of white paper The colours of the visible spectrum were then seen, while the ultra violet rays were rendered visible by allowing them to fall on a fluorescent screen. The violet end of the visible spectrum was thus seen merging into the fluorescent spectrum of the ultra violet rays These spectra were compared with those yielded by the light from an arc between carbon electrodes It was seen that the ultra violet light from the Simpson lamp caused a much stronger fluorescence than that from the carbon arc lamp, and that the *length* of the fluorescent spectrum was very nearly double that of the fluorescent spectrum of the carbon arc lamp The Simpson lamp, therefore, produces a more intense ultra violet light than that emitted by a carbon arc lamp, such as the Finsen lamp Further, the light ranges nearly twice as far into the ultra violet region so that some of the component rays have a shorter wave length than those produced by the carbon arc lamp Professor Horton also made comparisons between the new arc and the arc obtained under similar conditions with electrodes of other metals known to be good as sources of ultra violet light The metals used were aluminium, zinc, and cadmium, but in every case the radiation from the new arc was considerably more powerful

The light from the Simpson lamp has, therefore, two claims for clinical investigation one by reason of its greater richness in ultra violet rays, the other by reason of the presence of rays of shorter wave length Ethereal waves of different length have different physiological and therapeutic properties This is quite evident when the difference is very great, as is the case with visible rays and ultra-violet rays, and ultra violet rays and X rays But it is also true when the difference in wave length is much less Thus the waves at the violet end of the spectrum are only one half the length of those at the red end, yet the former have strong chemical (actinic) action and feeble thermal action, while the reverse is true in the case of the latter In the ultra violet region the shortest measured waves are one eighth of the length of the longest The range of the ultra violet spectrum is, therefore, four times that of the visible spectrum Arcs formed between carbon electrodes, iron electrodes, silver electrodes, and others all give out ultra violet rays, but they have not all identical properties Thus, the *light emitted from* the arc between silver electrodes has a selective action on the various micro organisms of the coli group, destroying or inhibiting some, not others The ultra violet rays emitted from an arc between carbon or iron electrodes do not possess this property The essential difference between the rays lies in the length of the waves The therapeutic action of the Simpson light is due mainly to the ultra violet rays Such action that this light can produce more effectively than other ultra violet light is due to its great richness in ultra violet rays, and such action that is found to be peculiar to this light is to be attributed to the presence in it of waves of shorter length

The Simpson lamp—The lamp is quite simple The electrodes are secured in metal holders and by means of a hand screw their points can be brought into contact or separated as far as desired In one design of lamp there is a plane reflector, in another a parabolic mirror is placed behind the arc so that the reflected rays are brought to a focus A metal tray or similar device is attached to the front part of the lamp so as to catch incandescent particles thrown off from the arc when the lamp is burning The lamp is mounted on a metal stand which can be raised or lowered or otherwise adjusted so that the light can be directed where desired

A current of from 5 to 7 ampères is required When the electrodes are brought into contact and then slightly separated a brilliant arc is produced It is not a steady arc like that formed between carbon electrodes, but it splutters and occasionally it goes out This is because molten slag forms at the incandescent points and sometimes makes a connexion between them The points have then to be further separated and readjusted When the lamp is burning a white smoke forms and collects as a white sublimate on adjacent parts of the lamp and on other objects in the room

Modes of application of the light—The light may be applied in one of three ways In the "open arc" method the lamp with the plane mirror is used and the electrodes are placed 12 to 15 inches from the skin The light is applied for two minutes to begin with, afterwards the exposure may be increased to three, four, or five minutes according to the reaction observed in the skin after the first exposure The open arc method is suitable when large areas have to be treated In the "focussed arc" method the lamp with the parabolic reflector is used and the area to be treated is placed at the focus of the reflected rays This method is suitable for small lesions In the "medium focussed arc" method the rays are reflected to a blunter focus, so that areas of medium size can be treated

The vapour produced during the burning of the lamp has also been used for the treatment of affections of the respiratory passages A hood is fixed to the open arc lamp and the vapour which escapes from the narrow end of it is inhaled through the mouth or nose

Physiological effects following the exposure — The application of the Simpson light, in therapeutic doses, frequently produces an erythema It appears five or six hours, as a rule, after the exposure If the exposure is prolonged the erythema is more intense, and the skin may subsequently "peel" The erythema is not of long duration, and no bad effects have been noticed. The eyes of the patient should be covered by some opaque material (cotton wool pads are suitable), and the operator should wear blue lead glass spectacles, otherwise a painful conjunctivitis will be produced

Experience with the Simpson light —An outfit for the production of the light was installed in the electrical department at St Bartholomew's Hospital in July, 1915, and a number of cases with various types of disease have been treated There seems little doubt that the Simpson light will be useful in the treatment of some of the diseases of the throat and nose A variety of cases have been treated and satisfactory results obtained in some of them The following cases may be shortly described :—

Rodent ulcer —The patient in this case had suffered for five years The greater part of the side of the face and upper jaw had been destroyed by the disease He had received various treatments at other hospitals The cavity was filled with nodular growth and was suppurating profusely Under treatment with the Simpson light the ulceration improved rapidly After three months during which time he had 44 treatments the local condition was greatly benefited—suppuration ceased and in many parts the cavity was lined by healthy epithelium

Lupus —Four cases have been under treatment, one an old standing disease affecting the tip of the nose and vestibules This patient had been under treatment off and on for three years After 16 applications the lupus was apparently cured The second case had extensive ulceration of the floor of the mouth, the tongue gums, pharynx, larynx, and epiglottis She had been under treatment with tuberculin ionisation, &c., for two years but without improvement After 33 treatments with the Simpson light the floor of the mouth was completely healed the tongue, gums, and pharynx were better the condition of the larynx unchanged The third case in which the anterior part of the nose and septum were ulcerated, was greatly benefited by 31 treatments extending over a period of five months. The fourth case has just commenced treatment and appears to be making progress

Syphilis —Up to the present only one case has been treated at St Bartholomew's The ulceration quickly improved, but the patient was also treated with mercury and salvarsan Major E G Ffrench R.A.M C who has had considerable experience of this treatment in the primary and secondary stages of the disease stated at a meeting of the Royal Society of Medicine in November 1915 (Laryngological Section) that he was of opinion that treatment by the Simpson light if combined with other syphilitic remedies definitely shortened the period of recovery [1]

Asthma —It has been stated that cases of asthma are materially benefited by the Simpson light A patient who had suffered from severe asthma, nasal catarrh, and polypi for five years, during which time his disease had made steady progress has recently been treated with the Simpson light After 44 inhalations of the vapour during a period of four months he is now in a better state of health and is able to do full work. During the last six weeks he has been practically free from attacks There seems little doubt that in this case a definite improvement has been obtained with the treatment

Vaso-motor rhinitis —Two cases have been under treatment for a short time, and in both of them there has been a moderate degree of improvement

Nasal catarrh and sinusitis —Three cases have received prolonged treatment of from three to six months, but without any definite results

Otosclerosis —One patient is under treatment and states that she is hearing better It is doubtful, however, whether this will be a permanent result

A number of cases of disease of other parts have been treated, and good results have been obtained with some

Eczema —A patient, aged 35, suffered from intense itching and pain in the fingers of both hands that had resisted other forms of treatment for nine months The eruption was distributed on the dorsal aspect of the fingers and hands, and on both palms Sixteen applications of the Simpson light were made over a period of 20 days The open arc was used, and exposures of one minute each to back and front of hand and fingers Nothing was observed until the day after the fifth exposure, when the itching increased and the discharge became more abundant After a rest of three days the treatment was resumed daily The itching and discharge then lessened, and on the twentieth day they had disappeared together with the eruption

Lupus —The patient aged 5, had an area on the right leg, not ulcerated, measuring 2 inches by 2 inches Thirty-one exposures to the Simpson light (open arc) were given over a period of 15 weeks The length of exposure was gradually increased till, at the end of 11 weeks, its duration was seven minutes It was then gradually diminished to three minutes The patient is still under treatment. The whole area of skin with the exception of a patch ¼ inch in diameter has healed. It is slightly pigmented. The patient had previously received local medicinal treatment but without avail.

Rodent ulcer —The patient was aged 47 The ulcer was situated on the lower eyelid It had been treated by X rays and had healed, but 11 months later it reappeared When seen it measured ¾ inch by ¼ inch Six applications of the Simpson light were made during 28 days The focussed arc was used and exposures of two and a half minutes were given. The ulcer healed and was covered by soft supple skin

The Simpson light seems to stimulate the healing of wounds Cases of shrapnel wound have been tried and have benefited from the treatment When disease affects the deep parts or subcutaneous parts there is usually, though not always, no benefit Cases of rheumatoid arthritis have been treated, usually without providing relief, although some patients with the disease affecting the finger joints have said that their pain has been greatly relieved One patient with considerable swelling of both sides of the neck caused by tuberculous glands (without sinuses) has been greatly improved, there being no evident swelling on one side and a much diminished swelling on the other A case of exophthalmic goitre was treated, but without beneficial result Some inoperable malignant ulcerated growths have been exposed to the rays In some of these pain has been relieved, but, excepting the cases of the rodent ulcer mentioned earlier, without any other benefit

The method is at present in its infancy, and it is too early to form any opinion as to the value of the Simpson light in the treatment of the different diseases The first impression obtained, however, is a promising one It seems probable that the light will be of distinct value in the treatment of superficial ulcerations, especially those which are of a purulent character Investigations should be made to determine how this light compares with other arc lamps The exposure required with it is a short one which is an obvious advantage It seems possible that in some diseases cures will be obtained more quickly than with other treatments Beyond a slight reaction, which is quite definite when a long exposure has been given, no bad results have been seen

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[1] See Proceedings of the Royal Society of Medicine.

HYPERTHYROIDISM AS A CAUSE OF THE IRRITABLE HEART OF SOLDIERS

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AND

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ALDERSHOT COMMAND

THE following cases seem to us worth recording as they may explain many of the so called "irritable hearts" which are now so common in men home from the front

CASE 1 —The patient, aged 28 admitted into the Herbert Samuelson Hospital for Officers, and first seen by one of us (C P W) on April 13th, 1915, had been at the front for eight months, and had there been subjected to great strain As all his work had to be done at night he had been very short of sleep He complained of palpitation, the pulse even in bed varying between 90 and 100 per minute, though quite regular There was no cardiac murmur , the apex was in the nipple line The temperature was slightly raised , he suffered much from sleeplessness He improved to a certain extent while in hospital and left on May 6th to go home and to lie in the open air He did fairly well until the middle of August, when he became very breathless and was hardly able to walk a hundred yards He came under observation again on Sept 30th I had seen him only once since he left London, and I was much struck with the change The thyroid gland was enlarged, he had well marked Stellwag s sign, fine tremor of the hands, a pulse rate of 120 apex in nipple line, and no murmur He was breathless on the slightest exertion All the typical signs of Graves's disease were present, he came into hospital again The pulse rate after a few days' complete rest varied from 98 to 84, and the respirations were 28 to 34 per minute

After three weeks' rest in bed one of us (F H J) gave him some X ray treatment Sittings were three times weekly and it was only possible to give seven in all The patient then said that he felt so much improved that he considered himself equal to travelling north to attend to urgent business affairs It is difficult to say how much of this alleged improvement was imagined as the result of the patient's wish to escape All that can be said on the physical side is that during the last few days while he was up the pulse was no worse than when he had been confined to bed In civil practice a few cases certainly do show definite benefit from X rays in a fortnight, but a month is generally necessary for any effect to be seen

CASE 2 —The patient had been wounded at the base of the neck and the left shoulder (June 28th) after two months compaigning in Gallipoli, during which time he was under fire the whole time He was confined to bed between two and three weeks As soon as he was allowed to get up he began to be troubled with profuse sweats He slept badly and felt restless and *unsettled His legs seemed* scarcely to belong to him " and any exertion made him breathless He was first seen by one of us (F H J) early in September when he still complained of all the above symptoms though of course in somewhat less degree than when he first got up He thought, however tha there had been no improvement for a month or more He complained much of aching in the wound, which, though healed presented an angry looking scar To look beyond the natural effects of exposure shock, and continued pain to furnish an explanation of the symptoms had not been thought of Consequently treatment by high frequency vacuum electrode was prescribed for the neck and shoulder, together with the sinusoidal bath as a general tonic Under this treatment the pain lessened, but the general condition remained unimproved He *complained* of night sweats which left him limp in the morning Belladonna was prescribed for these, and it produced some improvement So matters stood at the beginning of October, when it was thought desirable to re-examine the patient carefully in the light of Case 1. There was slight exophthalmos, definite enough when looked for , also the pulse was 120 The hands showed tremors when held out The thyroid gland was definitely enlarged, and pulsation was distinctly visible The clinical picture was thus illuminated as by a flash, and the whole of the symptoms fell into their proper place It was, in fact, a typical, and—rightly looked at—obvious case of Graves s disease Exophthalmos, enlarged and pulsating gland, tremors, sweatings tachycardia, breathlessness, irritability —nothing was lacking

The patient was doing light duty, which he was very anxious not to relinquish He was unwillingly allowed to continue this for a time while X rays were being tried. He has had treatment for two months The pulse is 100 Sweating is now of very occasional occurrence The tremor has gone The thyroid gland is smaller in size, and there is very little pulsation Exophthalmos remains unchanged but it was never very *marked The patient states* that he feels himself to be making progress every week

CASE 3 —The patient, aged 40 years, had in February 1915, been sent to Egypt At that time he felt in perfect health, and carried out all his duties for a period of three months His work was of an extremely arduous nature, and he began to feel the heat very much about the beginning of May *Towards the end of that month he began to* feel unsteady on his legs and to be troubled with shortness of breath He was sent home in July and was first seen by one of us (F H J) on Oct 1st At that time there was marked exophthalmos, and fine tremor in the hands which felt clammy to the touch The pulse rate was not markedly high (84) The patient was doing a certain amount of duty, and his chief complaint was that the least extra exertion made him short of breath

X ray treatment was commenced and was given three times a week The patient announced an improvement after four weeks In two months he stated definitely that he could go upstairs without feeling "puffed" and that he felt it would not be very long before he was fit for full duty

With regard to the first of these cases, the interest of it lies in the fact that many cases of irritable heart may be explained by a condition of hyperthyroidism, a sort of pre Graves condition the rapid pulse, sleeplessness, and tremor being the only signs present We know that prolonged strain and shock are common predisposing causes of exophthalmic goitre, and these factors are, of course, present in marked degree in most instances of so called " soldier s heart '

The patient in Case 2, although showing all the typical signs of Graves s disease early in October, had been seen by several medical men since he was invalided home without the diagnosis being arrived at It is *probable that the full clinical* picture developed gradually, and that, had one been on the alert, the condition could have been recognised at an earlier date and treated accordingly

Case 3 provides a kind of link between the Graves s disease of civil practice and that presumably brought on by the rigors of active service This patient had not actually been under fire, and, of course, his trouble might have developed in any event

There was no sort of *a priori* certainty that the same excellent results obtainable by X rays in ordinary cases could be duplicated in the "military" form of the disease, but, so far as our experience has gone, this treatment appears beneficial

It is to be specially noted that the patients in Cases 2 and 3 continued to do a certain amount of duty That the third patient should be practically cured and the second very much improved in two months under such circumstances may, we think, be considered encouraging, but it is probable that rest is even more desirable in military cases than in those occurring in private practice

The treatment of irritable heart in soldiers has hitherto been decidedly of an "expectant nature, and it would at least seem reasonable that in all cases where there is a suspicion of hyperthyroidism X rays should be tried, other suitable measures, of course, not being neglected We are of opinion that investigation and treatment on the lines above suggested will alter for the better the prognosis in the type of case known at present as "irritable heart of soldiers"

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

CASE OF SHRAPNEL INJURY TO RIGHT PARIETAL CORTEX,

SHOWING PARESIS OF LEFT LOWER EXTREMITY, TOGETHER WITH CORTICAL SENSORY LOSS AND THALAMIC OVER RESPONSE

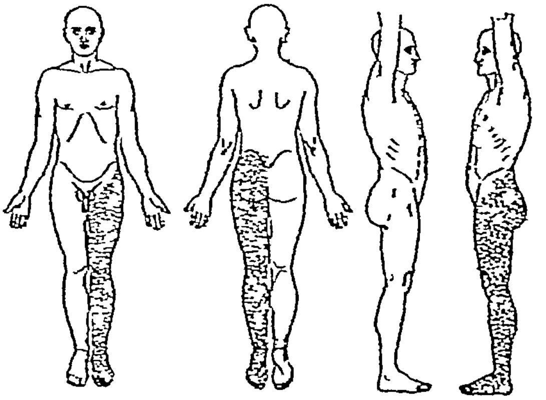
BY H. M ANDERSON, M.B, CH.B EDIN,
CAPTAIN R.A.M.C

AND

H. L. C NOËL, M.R C S, L.R C.P LOND,
LIEUTENANT R.A.M.C

WE consider that the following case is of sufficient interest to publish as it shows a comparatively rare combination. There are two definite sensory changes to be distinguished First, there is the sensory loss due to functional disturbance probably of a circulatory nature arising from local pressure on the post Rolandic cortex. This accounts for the loss of posture, the inability to distinguish compass points, the persistence of deep touch, and possibly for the blunting of cotton wool touch over hairless areas On the other hand, we have to consider the over reaction to stimuli of an affective nature such as heavy prick and stroking This is of thalamic origin, and is explained by the throwing out of action of the cortex which normally exerts an inhibitory influence over the thalamus The reason why thalamic over response is seldom a well marked feature of the cortical sensory lesions seen in this war it is difficult to say, in this case the amount of brain damage was small and the consequent shock slight—a possible explanation. The area determined by the line of change is interesting in that it approximates more closely to a "mind" or hysterical loss than any other area due to an organic lesion On the motor side the involuntary movements are undoubtedly of reflex origin, and probably represent the efferent expression of the thalamic level. In support of this hypothesis we have their relation to affective stimuli, especially when arising from the mucous membrane of the glans penis As such they are comparable to the well known involuntary movements which accompany certain emotional states, such as shyness

Private —— was admitted to a general hospital on July 31st, 1915 suffering from a wound of the head received on the 26th He gave a history that after being hit by shrapnel he was unconscious for about 10 minutes He was carried to a dressing station, being unable to walk on account of weakness and numbness of the left leg Since then he had complained of numbness of the left leg and headache On admission there was a small perforating wound at 8½/14¼" 1¼" to the right of the middle line There was no œdema of the scalp or tenderness of underlying bone. The X ray showed two pieces of metal in the outer table of the skull in the posterior parietal region with a depressed fracture below Examination of the nervous system revealed no abnormal changes in the eye movements, the pupils, or the visual fields, the face and tongue were straight there was no weakness or ataxia of either upper extremity The right lower extremity reacted normally to all tests In the left lower extremity all movements were possible but there was definite weakness of the toes, and the extensor longus digitorum was observed to act more strongly when the patient dorsi flexed the ankle than when he attempted to extend the toes On the left side the knee jerk was exaggerated, ankle clonus was just obtained, the plantar reflex was extensor and the abdominal was abolished.



Over the dotted area shown in the chart there was marked over-reaction to pin-prick, and passing from above downwards the line of change was quite definite, over the whole limb moderate prick was less "sharp" and heavy prick more painful than on the right side Over the hairless areas of the leg and foot there was blunting to cotton wool touch, cotton-wool over hairs was well appreciated, but felt different from the right side. Temperature sense, vibration on bone and on pinched up skin were normal There was considerable persistence of deep touch from the sole and compass points could not be distinguished at 6 cm along the inner border of the foot. The position of the hip and knee was impaired and there was complete loss of position of toes Localisation was accurate Spontaneous movements of an irregular and jerky character affecting the whole limb occurred from time to time or could be elicited by any painful stimulus applied to the leg or by gently stroking the limb with cotton-wool, these movements were, however, most marked on tickling the sole of the foot or on gently pricking the left side of the glans penis the latter causing great discomfort to the patient Stimulation of the sole gave a feeling like an electric current passing through the leg

On August 2nd an operation was performed. A penetrating wound of the outer table was found with depression of the inner table, a blood clot occupied the interval between the two tables The depressed portion of bone measured ⅞ inch by ⅜ inch, and was driven down on to the dura to the extent of about a quarter of an inch. The dura was intact. After operation the sensory changes began to clear up rapidly On the patient's discharge to England on August 13th he reacted normally to gross tests.

TRAUMATIC DISLOCATION OF THE HIP JOINT IN A CHILD

By HARRY PLATT, M S LOND, F R C S ENG,
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AND

H M VON MENGERSHAUSEN, M.B, CH B VICT,
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IT is well known that the occurrence of traumatic dislocation of the hip joint in children is a very rare event We recently had an opportunity of seeing this condition in a child

The patient was a boy aged 6 years When running down a hill he slipped, fell forward on to his face, and rolled over and over several times He felt something "give" in his left hip The mother brought him to the Ancoats Hospital within an hour of the accident It was impossible to obtain an accurate description of the exact violence and the position of the limb at the time The left lower limb was held in a position of flexion, adduction and inversion at the hip The limb was obviously shortened and the trochanter unduly prominent On palpation the trochanter was found to be elevated above Nélaton's line and the head of the femur could be felt on the dorsum ilii There were no signs of bruising and no crepitus was elicited Under anæsthesia the dislocation was reduced with ease by flexing the limb on the abdomen and then abducting as in the Ridlon method of reducing a congenital dislocation A long Liston splint was then applied An X ray plate taken after reduction showed no local anatomical abnormality which might have predisposed to dislocation, the femoral heads and acetabula being perfectly symmetrical At the end of three weeks the splint was discarded and the boy was allowed to kick his leg about in bed at will He rapidly gained mobility in the affected joint When seen two months after the accident he was walking without perceptible limp The hip showed full range of motion, and there was no pain or instability

Boehnke[1] has collected from the literature 29 cases of traumatic dislocation of the hip joint in children, and has described a case of his own It is probable, however, that this condition is hardly as rare as these figures would suggest, for it is only long standing cases and those which give trouble in reduction which are likely to be recorded The case reported by Boehnke is typical of the majority of the published cases—viz, a child aged 6 years seen 11 weeks after the injury, and in which arthrotomy was required to effect reduction after failure of manipulations In the above series of cases 23 were posterior and seven anterior dislocations, proportions which correspond to those usually given for hip dislocations in general It is interesting to note in these cases the relationship of the duration of the displacement to the feasibility of performing bloodless reduction In most instances an open operation was necessary after three weeks, though in two cases (quoted by Endlich) reduction was obtained by manipulations six and a half weeks and three months after the injury respectively On the other hand, bloodless reposition failed in two cases which had existed 14 days only (Helferich, Hirsch) As the small number of dislocations recorded were under the care of almost as many different surgeons, there would be no uniform standard of skill The chances of success in either method of reduction in long standing dislocations will be dependent on the training and experience of the operator in dealing with congenital cases

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[1] Boehnke: Archiv f Klin. Chirurg November 1913, p 1077

Medical Societies

ROYAL SOCIETY OF MEDICINE

SECTION OF PSYCHIATRY

Clinical Evening

A CLINICAL meeting of this section was held on Dec. 14th, 1915, at Bethlem Royal Hospital, Dr F W MOTT, the President, being in the chair

Dr J P PHILLIPS demonstrated a female married patient aged 54, who was admitted four months ago after a mental illness of six weeks, supposed to have been due to onset of the menopause Her husband stated that she began, after hard social work, to lose power of concentration, she was unable to control the movements of her hands and believed that people were against her On admission her physical condition was very poor, she was confused, could not converse, and was very restless and dirty in her habits Her reflexes were normal, with the exception of exaggerated knee jerks A fortnight after admission she was found to be comatose, having apparently had a seizure, and shortly afterwards had another, epileptiform in character, the temperature just afterwards rose to 101 4° F Treatment was followed by marked improvement, and she had lucid intervals Before lumbar puncture was carried out she was very restless and confused in her ideas, her speech was slurred, she had tremors of hands and lips, hallucinations of hearing, pupils reacted sluggishly to light, and her movements were somewhat incoördinated On these symptoms general paralysis was suspected Since lumbar puncture was done there was much improvement, and the idea of general paralysis of the insane was negatived There was an absence of lymphocytes, and Wassermann and the biochemical tests were negative —Sir GEORGE SAVAGE said he had seen cases of chronic mental disorder develop fits on occasion, of an epileptiform character, and he raised the question as to whether that meant a further degeneration of the brain, and a grave prognosis —The PRESIDENT noted that the thyroid was enlarged, the skin was dry, and the hair scanty In some cases, however, the enlargement turned out to be a pseudo-hypertrophy He had described some cases in which the mental symptoms were due to hypothyroidism, but the improvement after lumbar puncture excluded the present case from that group If there should be any relapse, he thought thyroid treatment might be tried —Dr J N SERGEANT, who saw the case earlier, said the patient was much worried about her supposed unworthiness and doubted whether she had done her best for her children and home.

Dr PHILLIPS also showed a single woman, aged 23 the subject of hysteria Two years ago she had a nervous breakdown, due, it was supposed to a love affair From this she partially recovered For five months she suffered from anæmia and indigestion, and when discharged from the hospital in the provinces where she was a voluntary boarder, she was unable or refused to walk. She complained of headache could not occupy herself, threatened suicide and was impulsive Last June she was certified, and at that date she suffered from insomnia, noises in the head and continuous dull headache She was also very thin and weak and emotional, and suffered from tachycardia She also had hesitating speech and an unsteady gait She was now much better, but he regarded the case as on the borderline of insanity —Dr ERNEST JONES did not see any evidence of any variety of psychosis in this case It seemed to present the clinical picture of an anxiety hysteria the symptoms and the whole course of the case seemed to support that view

The next case shown by Dr PHILLIPS was that of a man aged 57 whose illness was attributed to excessive work and worry He had melancholia 15 years ago, when he attempted suicide by drowning Two months ago he walked out of a window on the second floor of his house When admitted last month he complained of depression with pains in his head and back, there was marked tremor of the hands and lips, slowness of speech and asthenia. Glycosuria had been present, in degrees varying between 0 5 and 2 per cent. There had been no improvement, and he now suffered from hallucinations of hearing, and his pupils exhibited a sluggish reaction to light Lumbar puncture had been done, and the examination was negative —Sir GEORGE SAVAGE reminded the section of the observation of Dr Maudsley that there was an alternation between glycosuria and melancholia, which he (Sir George Savage) had amply confirmed If diabetics had mental disorder, they usually lost the sugar in the urine. In one particular case at Bethlem no sugar could be found in the urine as long as the patient was excited, but it reappeared in the intervals —The PRESIDENT pointed out that the determining factor in deciding whether it was a toxic condition was the presence of aceto-acetic acid or acetone in the urine. (Dr Phillips had said those substances were not present in this case.) With regard to the Wassermann reaction, in 97 per cent of cases of general paralysis the cerebro-spinal fluid gave a positive result, and in the serum in 98 per cent Clinically he did not regard either this or the first case as general paralysis He suggested that attendants should be instructed to describe exactly the kind of fit patients had when a medical man was not near, it would prove of great service

Dr SERGEANT exhibited a male patient, aged 41, who was certified in consequence of a condition of acute mania, following excessive drinking and the use of drugs He first showed abnormal suspicion, melancholia, and refusal of food He now had ideas of persecution based on hallucinations of smell and taste Lucid intervals, however, occurred during which memory, perception, and orientation seemed unimpaired. While the compound fracture which he sustained by jumping off the top of an omnibus was in a bad condition the mental condition seemed clear, but since the healing of the leg condition he had been imitative and worse mentally, as if he were trying to live up to the reputation he had entered upon. Once he kept silent for 42 days, but at times he was strongly imitative and quick witted.—Dr PHILLIPS thought the various phases the case had passed through justified the opinion that it was maniacal depressive insanity —Dr BERNARD HART inclined to the diagnosis of dementia præcox, for the patient's history as a youth and the fact that he had never had any occupation, favoured the idea that the abnormal mentality dated back a considerable time.—Dr T SEYMOUR TUKE agreed with Dr Hart, and spoke of a similar case in his own experience. His prognosis was not hopeful.—Dr HART in further comment, said it was a well known fact that in many cases the dementia was much less than it appeared He had carried out intelligence tests in a considerable series of cases carefully graded, and the general opinion of medical observers placed the cases much lower in the scale of intelligence than the tests showed they deserved. The dementia seemed to be pronounced because the patients were shut off from their surroundings Sometimes a case of dementia præcox would, after a number of years wake up and show surprising intelligence a state of things which did not occur in the organic dementias

Dr SERGEANT also showed a female, aged 40, whose mental illness dated from pneumonia and pleurisy following influenza 21 months ago She was very restless slept badly, complained of headache, was sensitive, irritable, and expressed a wish for self-destruction She had occasional auditory hallucinations and though formerly an ideal wife, she was now quite apathetic about her family

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LONDON DERMATOLOGICAL SOCIETY —A meeting of this society was held at St John's Hospital for Diseases of the Skin on Dec. 21st 1915 Dr J L. Bunch the President being in the chair —The President showed a case of Bichromate Dermatitis in a man, aged 81, who had peculiar purpuric lesions present on the left hand —Dr W Knowsley Sibley showed a case of Actinomycosis in a man aged 37 —Mr C R. Kempster showed a man who had received a scratch on the left ear with a piece of barbed wire three years ago Ten weeks ago he had a large fungating cauliflower growth present in this region, a section was examined and was found to be an epithelioma. The patient had been treated with X ray 10 applications full pastille doses and the lesion had practically disappeared.—Dr R Prosser White (Wigan) read a paper entitled "Some New Forms of Occupational Dermatitis"

Reviews and Notices of Books.

Oral Surgery A Treatise on the Diseases, Injuries, and Malformations of the Mouth and Associated Parts

By TRUMAN W BROPHY, M D, D D S, LL D, Sc D, F A C S, President and Professor of Oral Surgery, Chicago College of Dental Surgery With Special Chapters by MATTHEW H CRYER, M.D, G HUDSON MAKUEN, M D, WILLIAM J YOUNGER, M D, F W BELKNAP, M D, CALVIN S CASE, M D, D D S With 909 illustrations, including 39 plates in colour London Henry Kimpton 1916 In two volumes Pp 1090 Price 2 guineas

To appreciate this volume it must be recognised that though it will prove of interest and value to most surgeons, yet it is primarily intended for the dental student, many of whom do not study medicine Accordingly it is prefaced by a general description of the principles of surgery We find here accounts of surgical bacteriology and infections, there are chapters on syphilis and tuberculosis, on wounds, antisepsis, hæmorrhage and anæsthesia, fractures and dislocations, and diseases of bones and tumours are the subjects of some of the chapters, and in our opinion this introductory material is very well put together Then we come to that portion of the work which is more particularly concerned with the mouth. We have chapters on the infections of oral origin, the diseases of the tongue and of the tonsils, dislocation of the jaw and ankylosis of the temporo maxillary joint, the extraction and transplantation of teeth, cysts and tumours of the jaws, trigeminal neuralgia and diseases of the salivary glands The most important chapters, however, are those which deal with hare lip and cleft palate, and these are indeed valuable, for while much of the book could have been written from the experiences of a surgeon with general hospital practice these chapters deal with a subject which the author has made specially his own. He has devised new methods which in his hands at least have given almost perfect results, and we rejoice to have so complete a presentment of the author's ideas Many surgeons associate the name of Brophy *only* with the special operation which is called by his name, and which consists in the forcible pressing together of the two maxillæ in very young infants, but, as a matter of fact, he has made important additions also to the operations employed in older children and in adults, and his results more than justify the procedures he adopts

Professor Brophy lays down the principle that the earlier the operation for cleft palate is performed the better, provided that the health of the child is satisfactory If the child is under 5 months of age he holds that the approximation method is the best treatment, and that the ideal time for the operation is the second week of life. If, however, the child is older than this it will be impossible to adopt the method If a hare lip is present as well as a cleft of the palate we are told *that* the palate should be closed before any operation is performed on the lip, as the cleft in the lip will give much needed room for the operation on the palate He does not consider it necessary in the great majority of cases to make any lateral incisions in the palate for the relief of tension, but he employs leaden plates fixed with wire sutures to overcome the strain The subject is important, and we do not attempt a discussion of all the aspects of the questions involved, but here we have the facts and arguments which support Professor Brophy's opinions, and we refer to the book itself every reader who desires to investigate the subject fully

The book is freely illustrated, and most of the illustrations are very happy, but in a few the photographs of the interior of the mouth show very little It would surely be worth while to have some of these photographs redrawn

Instinct and Intelligence

By N C MACNAMARA, F R.C S Eng London Henry Frowde and Hodder and Stoughton 1915 Pp vi -216 Price 6s net

THIS volume is a plea for a modification of the present system of education Mr Macnamara states his thesis in the following words "The animal side of man's nature results from a specific arrangement of elements entering into the formation of his central nervous system which he has inherited from his progenitors, and cannot, therefore, get rid of or permanently alter" These abiding elements he believes to be chiefly resident in the great basal ganglia of the brain, which are so remote from experimental investigation in the higher animals that their functions are but little understood, though they are obviously of great importance Such a doctrine of inheritance of nervous traits would be barren or fatalistic if it were accepted baldly Mr Macnamara maintains, however, that the action of the basal ganglia can be modified by educating and influencing them through the sensory organs or by energy derived from the higher association areas of the neopallium, that mass of nerve tissue which has been added in the course of ancestral development to the modest nervous outfit with which animal protoplasm started on its ambitious career In the majority of healthy children these modifying influences can be attained by the appropriate exercise of the eyes, ears, and other sensory organs, for by their means instinctive qualities may be directed into useful and improved channels It is necessary that the body should be healthy if the best results are to be attained, and Mr Macnamara lays especial stress, therefore, on the need for a healthy environment at home as well as in school for the poorer classes, whilst in our large public schools it would be better if the master endeavoured to discover the disposition of each boy in the light of his parental attributes rather than inquire about the infantile ailments from which he has suffered

The book is valuable to all who are concerned with educational matters, as it gives abundant food for thought It is interesting because the author gives an excellent account of the nervous system as it exists in the various animal sub kingdoms

English Public Health Administration

By B G BANNINGTON, Inspector of Nuisances, County Borough of West Ham, Certificate Royal Sanitary Institute, Gilchrist Medallist Political Science, Society of Arts Medallist Economics, late Scholar, London School of Economics London P S King and Son, Limited 1915 Pp 338 Price 7s 6d net

Mr Bannington's work forms one of the series of studies in economics and political science edited by the Hon W Pember Reeves, Ph D, and in an appreciative introduction Mr Graham Wallas, professor of political science in the London University, indicates its object and the scope of the instruction that it will afford We agree with him that the student has hitherto had to content himself with popular handbooks or with chapters dealing with the public health in works on local government, and that the official has found in Lumley's "Public Health Acts" an admirable text book for reference in the discharge of strictly technical duties, but that neither has had compiled for his benefit a practical treatise which he can read and remember Mr Wallas excepts as a general treatise "English Sanitary Institutions," which he describes as obsolete, written by the present Home Secretary in the earlier days of his busy legal career, and, with this exception, we have no doubt that Mr Bannington's book will for the present stand alone, and that it will be welcomed as the production of a thoroughly practical and experienced man with considerable powers of lucid expression and orderly arrangement

It has hitherto been difficult to recommend to medical practitioners and others desirous of obtaining a more than superficial knowledge of public health legislation and of its administration anything in the nature of a readable book and not a precis of Acts of Parliament and Orders, and the need for such a work may well have been responsible for the indifference of many members of local authorities towards an important branch of their duties For the purposes indicated we believe Mr Bannington's book will be found extremely useful And as he gives constant reference to authorities in his text and footnotes, it will be easy for anyone who desires to examine any particular point in detail to follow the matter up as far as he pleases He will, moreover, find a useful bibliography of the subject on the pages preceding the index Medical officers of health will naturally see in such a work much with which they are familiar, as connected with the performance of functions which to them are a matter of routine They should however, also be able to trace useful suggestions as to the possibilities of their office in such chapters as that on registers, records, and reports, while there are many matters for their consideration in the observations upon official status and security of tenure While maintaining the general desirability of this security of tenure for all health officers, Mr Bannington does not conceal his opinion that the local authority will usually be master of the situation whenever it sets its corporate mind to the task of getting rid of any officer He suggests that the process of making the life of the object of its dislike burdensome and unpleasant will always be possible to a public body, and that the refusal of the Local Government Board to sanction a dismissal may be of little practical value when the Board and the local authority come into conflict

The history of public health legislation may be traced back through the Middle Ages to the Pentateuch by the aid of the author's introductory chapters, though in its modern and more effective development it is a very modern history As such this history may be recommended to the study of our present legislators, who should be encouraged in continuing the work which they have begun by the results achieved They will find in the author's concluding chapter a plea for simplification and codification, for which any legal library supplies an unanswerable argument in the bulky volumes of Lumley's "Public Health Acts already referred to And they will also be reminded that in the present and coming crisis in the nation's affairs every step taken to promote efficiency, combined with rigid economy, and to prevent overlapping and extravagance on the part of public bodies charged with the care of the public health is of supreme and increasing importance

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With the Turkish Army in the Crimea and Asia Minor a Personal Narrative

By THOMAS BUZZARD, M D Lond, &c London John Murray Price 10s 6d net.

IN the sound, smooth prose which he has at command Dr Buzzard recalls his experiences as a member of the staff of surgeons who, early in 1855, left England for the Crimea to supplement the surgical aid which up to then had been found insufficient by the British officers under Omar Pasha. A young man in the early "twenties," a Member of the Royal College of Surgeons of England fresh from well utilised opportunities in hospital practice, he embraced his mission with the alacrity of the professional enthusiast who enters on a field of practice prolific in surprises and new developments The seat of war, moreover, had the special attraction of classical association for the young surgeon who had not forgotten his Æschylus or his Xenophon, and who possessed not only the literary but the artistic instinct which found expression, as occasion offered, in many a graphic descriptive letter and many a water colour sketch

The journey out in those days was neither so comfortable nor so expeditious as it has since become, and the vicissitudes of travel by land and sea are described by Dr Buzzard with something of the frolic welcome congenial to robust health, high spirits, a sense of humour, and a happy exemption from the *mal de mer* On reaching his destination he found that (all too characteristic of the home authorities) the staff had not been secured the recognition due to it at the Turkish headquarters and that consequently its services were denied their proper scope The result was a long period of idleness, almost absolute, at Eupatoria which, to one of fewer non professional resources than Dr Buzzard must have been painfully irksome, but which he effectively relieved by study, topographical, climatic, and other, as well as by watching, wherever practicable, the operations at the front Incidentally, too, his knowledge and skill were in requisition, not least in the epidemic disease then more fatal to an army *in the field* than the actual fighting Cholera, for instance, was widely diffused, and would have numbered many a victim but for Dr Buzzard s advice to avoid the water, for his friend, John Snow, had the year before during the cholera explosion in Soho demonstrated drinking water to be the vehicle of the malady Relief to the wounded was also a frequent practice of his, on occasion of his riding over the war zone—particularly during the battle of the Tchernaya, the episode of which came under his eye Some of these scenes he describes with a pictorial impressiveness which has all the effect of a vivid sidelight on the official report—a contribution to the intelligent appreciation of the scene which is equally illuminating in his account of the siege of Sebastopol. On the fall of that stronghold Dr Buzzard and his colleagues on the staff were told off under the Deputy Inspector, Dr Farquhar, to Trebizond and Sinope, there to establish and equip on a satisfactory footing the hospitals, which in Turkish hands were lamentably defective This task, in which he took a conspicuous part, proved a blessing to Omar Pasha s command and earned the cordially expressed gratitude of that able and humane general

Further than this we need not follow Dr Buzzard's narrative, which will be found an eminently interesting and instructive commentary on many phases of the war not included in the monumental work of Kinglake The sketches which illustrate the letterpress are those of an accomplished artist who has found his pencil a pleasant distraction throughout a long professional career, academic, clinical, and consultant. His pen, too, has proved to him not less of a recreation, as may be inferred from the freedom and the skill with which he wields it Witness the chapter entitled "A Wild Night," in which he describes a robbery, partially successful, perpetrated by two marauders in the tent which he shared with a colleague The description is not unworthy of Dickens, of whom Dr Buzzard is a manifest, not to say grateful, admirer

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Morphology and Anthropology A Handbook for Students

By W L H DUCKWORTH, M A., M D Cantab Cambridge University Press Second edition. Vol I 1915 Pp 304 Price 10s 6d net

As a guide to physical anthropology this handbook is greatly to be commended to those students who have already a fair knowledge of comparative anatomy, at any rate of vertebrated animals But after this much is taken for granted, the student will learn the necessary and preliminary facts for the further consideration of anthropology pure and simple

The volume is really an account of the general anatomy of the order Primates, with such reference to mammals lying lower in the scale as is necessary to the right understanding of those general facts Abundant and detailed tables of anatomical characters help usefully to fix in the mind in a crystallised condition the essential points of structure which it is incumbent upon the student to have later at his fingers' ends, if he would consider the structure of man and his place in the zoological system All of these anatomical facts are set forth in very clear language and to a large extent they are illustrated for the student by plain figures in the text It is a feature of this work that these illustrations are to a considerable degree quite new and have the further advantage that they are direct copies of bones or preparations in the Cambridge Museum, *and* can thus be handily compared with their originals To the order Primates Dr Duckworth refers the lemurs, following some though by no means all, systematists, again, in accordance with the views of some he would place the little *tarsius* of the East (of which a figure is given) in a suborder by itself, the two remaining suborders being the rest of the "lemurs"—i.e., Lemuroidea, and the apes and man lumped together as Anthropoidea. The inclusion of the lemurs and *tarsius* with the Primates is insisted upon almost entirely on account of the *brain* structure so amply elucidated of late years by Dr Elliot Smith, but this inclusion is hardly in accord with the general anatomy of the animals concerned In view of difference of opinion it may be freely conceded that Dr Duckworth is perhaps safer in including than in refusing to include the "half apes" among the true apes and man Having taken this step, the author does not ignore the diversity of structure shown among the lemurs, and gives all of the principal facts in their anatomy where they differ from the higher "Primates"

Dr Duckworth refers to some of the literature of his subject, but does not overload his pages with references Possibly he goes a little way towards the other extreme It gives one rather a shock not to find the name of Owen mentioned in his index of authors quoted in this really valuable handbook

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Old Age Pensions Their Actual Working and Ascertained Results in the United Kingdom

By H. J HOARE, B Sc, LL B, Clerk of the Local Pension Subcommittee for Camberwell and Lewisham London P S King and Son, Limited. 1915 Pp 196 Price 3s 6d net

THIS little book has been written to serve as a "practical and human account of the actual working and ascertained results of the Old Age Pensions Acts, 1908 and 1911," and not as a legal text book for the guidance of lawyers It is well calculated to fulfil its object, and should prove of use for the instruction of the ordinary citizen who takes an interest in the minor workings of our Governmental Providence, as well as of those engaged in the administration of the Acts At the same time the suggestion may be made that a book which, though not written for the use of lawyers, is devoted to explaining or criticising Acts of Parliament loses by not having those Acts incorporated in it In this instance the Acts and the rules for administering them would not have taken up much space in an appendix, and the addition of an index or of a full table of contents would have been no disadvantage

Mr Hoare has some suggestions to make for the improved working of the Acts which he puts forward in a concluding chapter The changes which his experience causes him to suggest are not of a revolutionary description, but we note that he considers that a pensioner entering a Poor law institution for medical or surgical assistance should have his pension discontinued after four weeks He appears to desire that the forfeiture thus taking place should be permanent and not merely co extensive with residence in the Poor law institution, the hardship of which would be that even after many weeks the pensioner might recover and be as well able to live outside as he was before We should like to see the reasons for such a proposal more elaborately stated before expressing any assent to it

Some observations and statistics with regard to the extent of the relief afforded to the rates by old age pensions will be found in a chapter entitled 'Statistics of Working,' and a good many subjects, such as whether the failure to maintain a decent standard of personal cleanliness should disqualify for a pension, and questions other than that mentioned above arising out of the acceptance of medical Poor law relief, are treated briefly and clearly In short, a bird's eye view of the Acts in the working is presented, unimpeded by any excess of detail, and we commend the book to those of our readers whose work brings them in contact with the questions dealt with

LIBRARY TABLE.

Handbook of Physiology By W D HALLIBURTON, M D Lond, Professor of Physiology, King's College, London Twelfth edition With nearly 600 illustrations in the text, many in colours, and 3 coloured plates London John Murray 1915 Pp 924 Price 15s net—The eleventh edition of this handbook was reviewed in THE LANCET of Dec 13th, 1913. The alterations are of a very minor character The number of illustrations in the two editions are exactly the same—577—and we found no additions or removals The number of pages (924) exceeds by one the number in the last edition Here and there we found a slight alteration or addition in the text, e g, under fever, but practically page for page both the text and the pagination are identical in the two editions

Lessons in Elementary Physiology By THOMAS H HUXLEY, LL D, F R S Enlarged and revised edition. London Macmillan and Co 1915 Pp 604 Price 4s 6d—The original edition of this perennial and concise elementary physiology was published in 1866 It was revised by Michael Foster, and although the present editor does not mention it, Foster, in the preface to the edition of 1899 states that "my friend, Dr Lea, and I have undertaken a task of great difficulty" How admirably Foster and Sheridan Lea succeeded, the many times that successive editions were reprinted attest The present edition is the sixth Joseph Barcroft, of Cambridge, has undertaken the restoration of the work from the dilapidations of time Any portion of the fabric in which there was not an actual flaw the editor has faithfully left untouched Any repairs are substantial and thorough The edition of 1899 runs to 611 pages and the present one to 604 The number of illustrations—185—in the present edition is less by two than in that of 1899 The work has retained all its characteristic features and has been brought up to date by judicious emendations

Aids to Physiology By JOHN TAIT, M D Edin, D Sc., Lecturer in Experimental Physiology, Edinburgh University, and R A KRAUSE, M D Edin, D Sc., Lecturer in Hygiene, College of Hygiene and Physical Education, Dunfermline London Baillière, Tindall, and Cox 1915 Pp viii-242 Price 3s 6d net—It is stated that this little book is written as an aid to the student who is presenting himself for examination and who has already attended lectures and practical courses in experimental and chemical physiology and in histology It cannot in any sense replace the physiological text-book, lectures, or practical work It is founded on the "Aids" written long ago by Mr Peyton T B Beale Candidates preparing for the Examining Boards who do not exact a high standard of physiological knowledge may find it useful So far as it goes, the matter is excellent and concisely put

Elementary Chemical Microscopy By EMILE MONNIN CHAMOT, B S, Ph D, Professor of Sanitary Chemistry and Toxicology, Cornell University First edition London Chapman and Hall, Limited New York John Wiley and Sons, Inc. 1915 Pp 410 Price 12s 6d net—This is a suggestive book, illustrating, to quote the author's words, 'the benefits to be gained through the intelligent application of chemical microscopic methods in the industries and in research" Of the American chemist the author thinks that while he is usually ready to accept with alacrity all time labour, and money saving devices, he has been strangely backward in recognising the expeditious value of the microscope in analytical researches Professor Charnot holds that the microscope is a more important adjunct to the laboratory than the spectrometer, polarimeter, or refractometer, and ranks it in importance next to the analytical balance itself He certainly makes out a good case in favour of giving increased attention to micro chemical methods The earliest comprehensive work dealing with micro chemical methods was, says the author, from the pen of an American—Theodore G Wormley—whose classic, "The Microchemistry of Poisons," appeared in 1867 We appreciate this reference to a very valuable book, but the microscope was employed in analytical methods some years before this During the years 1851, 1852, 1853, and 1854, the "Reports of THE LANCET Analytical Commission" were published in this journal, and the disclosures then made as to the enormous amount of adulteration of food and drugs going on were effected by the aid chiefly of the microscope Thus the microscope really proved to be the foundation of our present Food and Drugs Acts, for legislation soon followed the reports of this Commission. But Professor Charnot has developed a very fascinating branch of analytical methods, for to watch a chemical reaction under the microscope is a most attractive occupation. It is even more attractive, we think, when the test-tube in which the reaction is taking place is put in the field of the optical lantern and the changes are projected on the screen We strongly recommend this book to the attention of all those engaged in analytical operations It is quite remarkable what a number of well known reactions or tests, qualitative as well as quantitative, can, as the author clearly demonstrates, be "intensified," so to speak, or made more sensitive by the aid of the microscope

A Text book of Medical Chemistry and Toxicology By JAMES W HOLLAND, A.M, M D, Sc.D Fully illustrated Fourth edition, thoroughly revised London and Philadelphia W B Saunders Company 1915 Pp 678 Price 15*s* net—This book is evidently appreciated as it has not only reached a fourth edition, but some of the earlier editions were reprinted In our references to the previous editions we have always expressed a good opinion of this work. The plan of treatment is admirable, the subject-matter has been kept in touch with modern developments, and the ground covered meets the requirements of the medical student conveniently The present edition contains extensions on such subjects as uranium and vanadium, radium and thorium, the newer organic compounds of arsenic, the protective enzymes, hormones, while there is an entire chapter devoted to the clinical and chemical examination of fæces The coloured illustrations of certain tests are remarkably close imitations of the real thing

The Examination of Hydrocarbon Oils and of Saponifiable Fats and Waxes By Professor Dr D HOLDE Authorised translation from the fourth German edition by EDWARD MUELLER, Ph.D First English edition London Chapman and Hall, Limited, New York John Wiley and Sons 1915 Pp 483 Price 21s net.—This highly technical work calls for little comment in a medical journal, although those sections dealing with the refined paraffins now used in medicine, and the chapters on soaps and glycerine possess some medical interest The book is a valuable contribution on the subject of the examination of oils, in view of the growing importance to the world of its oil supplies We are interested in the following observations on the physiological properties of petroleum and petroleum products "Several of the high boiling petroleum products are used with success in medicine (dermatology), notably vaseline and 'paraffinum liquidum' and 'naphthalan' as the basis for salves The ill effects of other products have been demonstrated Probably the more harmful action of the higher boiling fractions, such as crude paraffin, is due to the insufficient treatment of the crude materials for the removal of oxygen and sulphur derivatives, on the other hand, the highly purified 'paraffinum liquidum' can be used." The book abounds with methods of analysis useful in the evaluation of oils, fats, and waxes

The Illustrated Medical Dictionary By W A NEWMAN DORLAND, A.M, M D Eighth edition, revised and enlarged London and Philadelphia W B Saunders Company 1915 Pp 1137 Price 19s net—The two years elapsed since the appearance of the seventh edition of this dictionary have necessitated the addition of 30 new pages, an increase of nine pages under the heading "Test," and a series of entirely new plates The title page makes the claim to be "a new and complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary science, biology, medical biography, &c.," and for medicine and surgery, at least, we believe the claim to be well founded. The book is one which we often use for reference

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MISCELLANEOUS VOLUMES

WE have received a number of little books dealing with ambulance work. One of these, *First Aid to the Injured and Sick an Advanced Ambulance Book*, by Major F J WARWICK, R A.M C (T) and Major A C TUNSTALL, R A.M C (T) (Bristol John Wright and Sons, Ltd. 1915 Pp 246 Price 1*s* net) is already in its ninth edition and 120th thousand. A fresh feature in the book is the incorporation of the new stretcher drill from R A.M.C Training, 1911 It will continue to enjoy its well earned popularity——A supplement to this manual has appeared in the form of *Questions on First Aid to the Injured and Sick* by the same authors (Same publishers. Pp 38. *Price 6d* net), which it is hoped will enable pupils, especially *those* who have not the advantage of attending classes, to make *their* knowledge of the subject more thorough and complete The page of the handbook on which the answer is to be found is given at the end of each question.——*Martin's Questions and Answers upon Ambulance Work* (London Baillière, Tindall, and Cox. 1915 Pp 125 Price 1*s* net) has been revised and brought up to date by Mr LEONARD S BARNES in the light of his wide experience as official lecturer and examiner to the St John Ambulance Association. The book is in small pocket form and has reached its eighteenth edition and its seventy-second thousand and evidently can serve as a reminder to what has been learned at lectures and demonstrations. For more than this its lack of illustrations would make it unsuitable.——A new publication on similar lines is *Training in First Aid and Nursing by Question and Answer* (London The Scientific Press, Ltd Pp 133 Price 1s 6d net), arranged by Captain S T BEGGS, R.A.M C (R), whose experience as a lecturer for the St. John Ambulance Association has enabled him to write with authority, and as an old demonstrator of physiology to choose an attractive series of diagrams which add greatly to the value of the book. Part II is devoted to training in nursing, and here too the illustrations are well chosen and most helpful. The book has a limp cover suitable for the pocket, is most attractively printed and arranged, and has a good index. It will make a serious competitor to the older manuals ——Learning is not the only requirement for a prophet of health and Professor H R KENWOOD in his little brochure, *Health in the Camp a Talk to Soldiers* (London H K Lewis and Co , Ltd 1915 Pp 58 Price 3*d* net , 100 copies 21*s* net), has known how to infuse his teaching with a convincing earnestness which makes it doubly attractive He has endeavoured to convey that which every soldier ought to know, and undoubtedly whets his reader's appetite, as he desires to do, for a fuller knowledge of the subject We should like to hear that the book is in the hands of every man on service, as we believe that its study will necessarily lead to a more serious attention to personal hygiene

The valuable work of the *Prehistoric Society of East Anglia* in connexion with Grime's Graves has recently been noticed in our columns,[1] and we now have before us Vol II , Part I , of the *Proceedings* of the Society (London H K Lewis and Co Price 3*s* 6*d* net) In addition to Mr J Reid Moir's presidential address, delivered at the end of 1914, on the Further Discoveries of Flint Instruments of Man Beneath the Base of the Red Crag of Suffolk, the volume contains several papers of interest, including the Occurrence of Palæoliths in North East Lancashire, by Dr T E Nuttall, and a Cave Site at Nettlebed, S Oxon, by Mr A E Peake Since this volume was published we learn that Mr Moir has been conducting a series of excavations in a brickfield to the north of Ipswich where some later Pleistocene relics have been discovered The human remains comprise small portions of occipital bones, the shaft of a female humerus, and a male femur, all in a well preserved condition

Within the compass of less than 100 pages Mr VERE MINGARD, in the *Story of Islington and Finsbury* (London T Werner Laurie Local History Series Price 1*s*) gives the reader a clear picture of the history and topography of an interesting part of London, whether in Saxon or more modern times The book is well illustrated with reproductions of old prints, and will certainly stimulate the interest of those who are unfamiliar with the story of our great metropolis ——In a companion volume Mr J F WOOD, B A tells the *Story of Manchester* (same publishers and price) from early times, when it was a small settlement on the banks of the Irwell, to the present day This book, too, is well illustrated, and makes interesting and stimulating reading

As a welcome reminder of the pursuits of peace appears a new and revised edition of *Roses and their Cultivation* (London W H and L Collingridge 1915 Pp 204 Price 3*s* 6*d* net) by the well known expert Mr T W SANDERS the editor of *Amateur Gardening* The book is well illustrated with coloured plates diagrams, and plans and among the new features is a chapter on the cultivation of roses as annuals A list, which the author states is by no means complete includes 1300 varieties of roses classified in alphabetical order under their respective types. Simple and practical instructions for every phase of rose growing are given

MAGAZINES

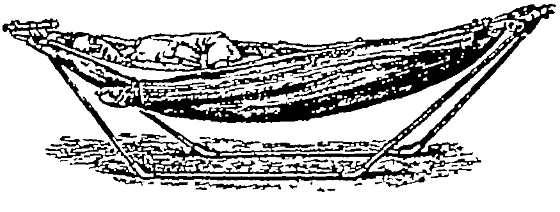
The Yellow Fever Bureau Bulletin Vol III , No 4 —We regret to learn that after the issue of this number the Bulletin will cease to appear The special funds which were collected in 1911 by the late Sir Robert Boyce to defray the expenses of the Yellow Fever Bureau at Liverpool are now exhausted consequently it is no longer possible to continue the publication of the Bulletin , but articles relating to yellow fever will in future appear in the *Annals of Tropical Medicine and Parasitology* Since the formation of the bureau three volumes of the Bulletin have been published as well as two large supplementary volumes containing the reports of various investigators who have been working during 1913 and 1914 under the Yellow Fever (West Africa) Commission, appointed by the Colonial Office Dr Harald Seidelin contributes to this number an article on the distribution and prevalence of yellow fever during the past two years and in it he points out that although in that period there has been a marked decrease in the number of cases reported, it does not follow that there has been a reduction in the endemicity of the disease He suggests that political and other conditions may have in some countries interfered with the influx of foreigners, non immunes, who are the chief source for supplying the typical cases by which the disease is usually recognised. It is maintained that further investigations of late have tended to confirm the views put forward by the late Sir Robert Boyce that yellow fever is endemic over a large portion of the West Coast of Africa Dr Seidelin, as editor, furnishes a paper on town planning in the tropics, with special reference to the prevention of yellow fever He also contributes two original articles, the first dealing with the histology of the liver in yellow fever illustrated by numerous coloured plates , the second comprises some notes on hæmatological technique A considerable portion of this number of the Bulletin is devoted to the furnishing of abstracts of many interesting books and papers relating to *yellow fever, pappataci fever, and dengue*, and appended is a bibliography divided into four sections—namely, (1) general , (2) yellow fever , (3) pappataci fever , and (4) dengue

We regret that so useful a journal as the *Yellow Fever Bureau Bulletin* should be allowed to die an untimely death for want of the necessary funds

New Inventions.

A BED STRETCHER

A STRETCHER that possesses the advantages of supplying comfortable support for the patient, is light and portable and when in use can be stood on wet ground, even in several inches of water or mud, without inconvenience to the sick or wounded man, should prove useful at the present moment A stretcher possessing these qualities has been brought to our notice by the patentee, Mr F Goddard, of 30, Coleman street London, E C , and we understand that it has already been put to practical use by the Belgian Government who have found it convenient and satisfactory, while the French and Italian Governments have the stretcher under consideration As will be seen from the illustration the apparatus consists of two inverted V shaped supports the free ends on each side being connected with each other, thus forming a cradle shaped framework A T piece is attached to the apex of the V shaped supports, and attached by rings to the ends of these cross pieces is a canvas sheet which stretches between them The framework of the stretcher is constructed of lengths of metal tubing, a detachable metal casting connecting the joints When not in use the stretcher folds up into a comparatively small compass It can be erected in a few seconds



LORD STRATHCONA'S LEPER CHARITY —It will be remembered that the late Lord Strathcona left a sum of £5000 for the purpose of founding a charity for the benefit of lepers A scheme sanctioned by the Charity Commissioners has now been issued and provides that the annual income shall be applied in one or both of the following ways—namely (1) In or towards maintaining a home to be used for the accommodation of British subjects in the United Kingdom suffering from leprosy , (2) in assisting the work of any persons, or society or company engaged in the relief of lepers in the United Kingdom The first three trustees are Mr John Burns M P who is appointed for life, and Sir A H Downes and Mr W T Jerred, C B , senior medical officer and assistant secretary respectively of the Local Government Board, who are appointed for the first five years The appointment of future trustees will be in the hands of the President of the Local Government Board then in office

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[1] THE LANCET August 14th (p 341) and Sept 25th 1915 (p 714)

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Before being introduced to the medical profession our products have been tested for more than two years in several clinics of eminent physicians, and in hospitals, with a therapeutic success under conditions in which other organotherapeutic preparations had failed Further, we are authorised to state, on the word of clinicians who have done us the honour of testing them (the experiments extend to several thousands of cases) that **owing to their activity and the reliability of their therapeutic effects ENDOCRISINES constitute a considerable progress in organotherapy**

The new process which we employ in the manufacture of our extracts, a process which is at the same time simple and rational, is based on the most reliable results of physiological research, which eliminates all the disadvantages of methods that have been employed up to the present, and also explains the superiority of ENDOCRISINES

WE HAVE AVOIDED ALL CHEMICAL TREATMENT OF THE GLANDS

"*No method of chemical treatment enables one to separate the active substance or substances, and simultaneously to exclude the inert substances (if such are present) of the internal secretory glands*

' *There is no reagent, however mild it may be, even atmospheric oxygen, the acids or alkalis in extreme dilution no solvent alcohol, ether, &c , the action of which will not diminish considerably or prevent, by the production of toxic compounds, the therapeutic action of fresh organs*

"Hence it followed that it is in the interests of medical men to reject as inadequate and dangerous all organotherapeutic preparations that have been manufactured by chemical means "

WE HAVE AVOIDED DESICCATION BY HEAT

" *The processes that utilise desiccation by heat are subject to two serious objections At comparatively low temperatures, between 20° and 40° C , desiccation takes place very slowly and the proliferation of micro-organisms is favoured and consequently also the formation of the products of putrefaction. As soon as a temperature of 40° C is exceeded the therapeutic activity of the organs decreases progressively, rapidly approaching the zero-point* "

By drying the organs that have been removed under the best possible conditions of asepsis in vacuo and at the temperature of melting ice, we obtain products that are free from all microbial contamination and do not differ from fresh glands except in the fact that they have lost their water, their entire activity being preserved because neither heat nor chemical reagents have destroyed these fragile elements

As a method of exhibiting the ENDOCRISINES we had the choice between compressed tablets, pills, or cachets

We have selected cachets for various reasons

In the case of organotherapeutic agents it is indispensable that their absorption should take place in the first portion of the digestive tract, compressed tablets and pills prepared by enveloping the active powder in some inert substance (gum, mucilage, gluten, &c), are unfavourable to this object being achieved and often reach the large intestine without having been disintegrated or absorbed

In the case of cachets, on the other hand, the absorption is certain the dose can be regulated strictly, and, further, it is possible to test the perfect state of preservation of the product as often as desired

The quantity contained in each cachet has been worked out for each gland in such a manner that, except in the case of special instructions being given by the medical attendant, the medium therapeutic dose corresponds to one or two cachets per diem **taken before the principal meals**

In order to avoid any confusion, the name and the dose of the organ contained are marked on each cachet

Summarising, ENDOCRISINES, total extracts of internal secretory glands offer at the same time the maximum of efficacy and reliability whilst being contained in the minimum of volume

THYROIDINE OVARINE (corpus luteum) **ORCHITINE** (testical) **HYPOPHYSIS** (pituitary)
SUPRARENAL KIDNEY MAMMA LIVER SPLEEN THYMUS

BILÉYL.

A Pure and Stable Extract of Fresh Ox-Gall, in the Form of Keratin-Coated Globules

Bile, the rôle of which having been unrecognised for a long time, has nowadays been completely elucidated, possesses therapeutic properties that are dependent on its function in the organism, and that may be represented as follows —

1 **An action antagonistic to intestinal putrefaction**
2. **Exito-motor action on the unstriated muscular fibres of the intestine**
3 **An anti-coagulating action on the intestinal mucus**
4. **Stimulating action (cholagogue) on the biliary secretion.**

From these various experimentally demonstrated modes of activity it has been possible for medical science to deduce conclusions defining the employment of bile It may be employed with advantage —

1 In all cases in which biliary secretion is either totally or partially suppressed
Icterus, Biliary calculus, or colic
2 In all cases in which this secretion is inadequate
Hereditary simple cholæmia, that latent widely spread and hereditary affection occurring in early life and manifesting itself by a **bilious 'earthy complexion, rusty spots urticaria, some pruritus, digestive disturbances such as constipation alternating with bilious stools, recurring attacks of jaundice, nervous disturbances, intellectual paresis, megrim, insomnia, circulatory disturbances, retarded pulse and dyspnœa, &c**

And finally **entero-colitis of the muco membranous type with constipation**

Bile in itself being eminently unstable and containing in addition principles that may be termed at least useless it was logical to try and isolate the active principles in a pure state

It is this property which is realised in BILÉYL a pure and stable extract of fresh ox gall, in the form of keratin coated globules, which only become dissolved in the intestines, where their action should come into play

Method of employment of BILÉYL

1	Adults	Six to eight globules a day to be taken towards the end of meals	2, 3 or 4 at a time
2	Children	From 3 to 6 years of age	2 globules a day,
		from 6 to 9 years of age	3 globules a day
		from 9 to 12 years of age	4 globules a day

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THE LANCET.

LONDON SATURDAY, JANUARY 8, 1916

Lord Derby's Report on the Recruiting Scheme

LORD DERBY'S report on the recruiting scheme, the conduct of which was committed to him by the Government, appeared on Tuesday last, and as the actual figures have been issued by all the daily papers we need not repeat the analyses which are familiar by this time to our readers The winning of the war, rapidly and economically, is a national affair, it is the business of us all to help to this consummation by individual effort, by class organisation, and by common endeavour Therefore, the success or failure of Lord DERBY'S recruiting scheme is a matter of the first importance to medical men, most of whom will agree with us in feeling some sense of disappointment at the position A huge crowd of single men are holding back and furnishing by their dilatoriness a text for very unpleasant sermons

The total of recruits looks well, when it is remembered that the names have been obtained under a voluntary system But there are a large number of men actually medically unexamined among both the starred and unstarred, and it is a certainty that some of these men will be rejected when the various groups are called up and subjected to proper examination The question of medical examination will become very important, for a proportion of the new candidates have been rejected already for reasons of health and physique, and have presented themselves anew that they may earn an honourable discharge from their patriotic liability Close medical inspection may reduce the new recruits to a less imposing figure, but the starring of numerous occupations is what has most impeded the movement Lord DERBY, in his remarks upon the result, with which he is obviously not satisfied, pointedly declines to state what are in his opinion the industries indispensable to this country, but adds that if there is any further reservation of occupations the value of the recruits obtained must go down On learning from Lord DERBY'S report of the number of trades and occupations that have been starred it is inevitable that medical men should wonder why medical students should not have been starred, seeing that their value to the country in a few years' time will obviously be very large It would have been difficult however, for the medical profession to make any more definite stand in behalf of the cause of medical education than was actually made The War Office stated its intention not to discourage junior medical students from accepting combatant commissions, Lord DERBY informed an important official deputation, including the Presidents of the English Royal Colleges, that it was the duty of medical students, other than those in their fourth and fifth years of study, to join the forces, and the Director General of the Army Medical Service formally signified to the General Medical Council his agreement with Lord DERBY'S view

But it is impossible not to see that medical students had a far greater claim to be starred than many other young men, though we recognise with pride that their general feeling was wholly in favour of being permitted to take their own course and fight for their country at once But the question is still exercising the minds of many of our readers, for undoubtedly it is a reckless move to empty our medical schools of all save a few senior students, and to allow our professional roll to be without additions from the year 1918 to the year 1920, which is roughly the present position. Well may many of the teachers in our medical schools and the staffs of our universities ask why if a cowman is starred is not a medical student starred? The answer, of course, is perfectly obvious A cowman, a veritable cowman and not a person who calls himself a cowman so as to dodge his responsibilities as a recruit, is a person who is, *qua* cowman, of greater immediate use in the farmyard than in the ranks, while the medical student, drawn to a large extent from the stratum of society whence the best young officers are obtained, is urgently needed with the forces

We publish in another column a statement of the activities of the Central Medical War Committee, which, in close conference with the Medical Department of the Army, has worked out a scheme for recruiting medical officers

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The Measurement of Blood Pressure

THE progress of science has always been intimately connected with the introduction of instruments of precision The name of Dr. GEORGE OLIVER, whose life work we record in another column, will always be associated with instruments for the measurement of blood pressure For although others were earlier in the field in introducing methods capable of clinical application, he was one of the first to make that application and to facilitate it by the simplification and improvement of the apparatus required And a rich harvest of facts soon rewarded him, even though the interpretation of these facts is still to some extent in dispute The clinical value of observations on blood pressure is doubted only by those who have never made them It is true that the finger can detect some differences in pulse tension, but it is often entirely at fault, since it can only estimate total pressure, thus missing a high pressure if the volume be small In the same way although the hand can detect differences in temperature, it cannot replace the thermometer The sphygmomanometer has enlarged our ideas, cleared up difficulties in diagnosis, and helped in prognosis. This has naturally reacted on treatment. It has enlarged our ideas on "heart failure." The heart is adjusted to work at certain pressures, and though within considerable limits it can adjust itself to variations, those limits may be exceeded. In an acute infection blood pressure may fall dangerously low, and sensory stimuli do not produce the usual pressor result, though abdominal massage is still effective. It is the vasomotor system that is poisoned rather than the heart that is damaged. But the heart cannot carry on the circulation satisfactorily if the blood pressure is quite inadequate. Recognition of these facts has led to the problem being attacked through the vasomotor system by means which act peripherally, thus protecting the heart from secondary damage and needless or harmful stimulation. CRILE and LOCKHART MUMMERY take a similar view of the origin of surgical shock, though of late this has been disputed. There is the opposite condition in which the heart fails while the pressure is very high. In some cases where the pressure has been unduly high, perhaps for years, the heart fails because it can no longer work against an excessive resistance. But in others it is probable that the rise of pressure is compensatory. With diminishing output vaso constriction is necessary to lessen the size of the arterial bed. But this vaso constriction would only raise the blood pressure to its normal level again, it would not force it higher. Yet it is often a surprise to find with a feebly beating heart a pressure of 200 mm. or more. The recent work of STARLING and his school throws fresh light on this apparent paradox. The contractile force of a muscle depends upon and is proportional to its previous stretching, so that in its inception even cardiac dilatation is compensatory, and a rise of blood pressure will increase the stretching of the cardiac muscle. But it is a desperate expedient, for with overstretching complete failure may ensue. In a primary affection of the heart muscle this is particularly likely to occur, hence the liability to sudden and fatal syncope. This work has also thrown a new light on "back pressure," for a rise of venous pressure increases the filling and therefore the stretching of the right auricle. OLIVER was much interested in the measurement of venous pressure in man, and published a paper on the subject in 1898, long before its significance was grasped.

This new work explains what had previously been realised clinically—that the indiscriminate lowering of blood pressure by a frontal attack with vaso dilators is dangerous. In the early days of the sphygmomanometer there was too great a tendency to its use, just as there was a tendency to indiscriminate lowering of the temperature in the early days of antipyretics. A rise of pressure is a symptom just as surely as a rise of temperature. In all attempts at repair, however, the body may overshoot the mark, and it may become as imperative to lower pressure as to treat hyperpyrexia. The sphygmomanometer has aided in diagnosis in many ways. We may appeal to it if in doubt whether a hemiplegia is due to hæmorrhage or thrombosis, in the former it is always high, while in the latter it need not be and indeed seldom is. Perforation in typhoid fever causes a rise of pressure, while hæmorrhage produces a fall. A fall of blood pressure is occasionally a valuable sign of incipient or recrudescent phthisis. A great fall of blood pressure may occur quite early in Addison's disease. A marked fluctuation on change of posture in a patient with albuminuria suggests that it may be orthostatic in origin. A distinct difference of pressures in the two arms may be a sign of aortic aneurysm. As to prognosis, a continued rise in the already high pressure in cerebral hæmorrhage is of the gravest import. In chronic nephritis a raised pressure is necessary for adequate excretion, and cases in which it does not occur usually do badly. In pneumonia a continued but gradual fall of pressure is the rule. GIBSON found that any sudden rise before the crisis implied the onset of some complication, while a sudden fall was a warning of impending vasomotor paralysis, leading to heart failure. A rise of blood pressure in pregnancy has been found a valuable prognostic sign of the approach of toxæmia. But perhaps one of the most practical applications of the sphygmomanometer has been the recognition of the rise of blood pressure in later life, before any organic change has occurred in the arteries, and therefore while the case is still amenable to treatment. A busy man nearing 50 years of age, who finds himself getting unduly short of breath on slight exertion, and liable to vertigo, insomnia, "biliousness," or headache, may show no evidence of disease to ordinary physical examination, but the sphygmomanometer would probably reveal a blood pressure of 180 mm or more. If we meet this by putting the patient into the way of physiological righteousness rather than by depressor remedies, the results are often extremely gratifying. In this "pre sclerotic" stage we should pay more attention, as OSLER urges, to the peripheral field of the circulation "rather than tinker at the pump or the mains." And the peripheral circulation always received careful consideration in OLIVER'S work.

It is an interesting paradox that in medicine instruments of precision have a way, largely because of their educational influence, of diminishing the necessity for their own use. Thus the sphygmograph taught us many things about the pulse which could subsequently be recognised without its aid. The electrocardiograph was necessary to the detection of auricular fibrillation and to the explanation of its nature. But already we can sometimes diagnose this condition without it. To a certain extent the same is becoming true of the sphygmomanometer, but this does not diminish our indebtedness to the man who has familiarised us with its lessons.

Annotations

“Ne quid nimis”

THE NEW YEAR HONOURS

THE names of three medical men appear in the list of those on whom the honour of knighthood has been conferred. Sir George Andreas Berry is honorary surgeon oculist to the King in Scotland, an ex President of the Royal College of Surgeons of Edinburgh, and ophthalmic surgeon to the 2nd Scottish General Military Hospital. Sir Thomas Wright Parkinson is physician to Prince Louis of Battenberg and to the Countess Lytton Hospital for Wounded Sir Milsom Rees, C V O, is laryngologist to the King and Queen and to the Queen Mother Surgeon General Guy Carleton Jones, Director of Medical Services to the Canadian Expeditionary Force, has been made C M G Brevet Colonel William Westropp White, I M S, has been appointed to the Order of the Bath To the Order of the Indian Empire have been appointed as Companions Dr John Andrew Turner, of the Bombay Health Department, Lieutenant Colonel Robert Charles Macwatt, I M S, who already holds the Kaisar i Hind Medal, and Dr Suresh Prosad Sarbadhikary, of Calcutta A further knighthood in India has been conferred upon Dr Rai Kailash Chandra Basu Bahadur, of Calcutta The honours to members of the Regular Services are noted in another column and to the holders of all these well earned distinctions we offer hearty congratulation.

THE PROHIBITION ORDER AND BRITISH WINES

THERE appears to be a widespread but mistaken idea amongst the public and amongst tradespeople that the preparations known as British wines are non alcoholic, and there has been quite a brisk sale of these beverages during the hours prohibited by the recent Order Ginger wine apparently is the first favourite and the sense of warmth and invigoration which a glass of it gives is innocently attributed to the ginger present, while as a matter of fact the stimulus is due to alcohol The sale of this commodity and the drinking of it on licensed premises are therefore illegal at certain hours, since the Order refers to all alcoholic beverages The public has no means of deciding what beverages are alcoholic and what are not, and it seems to us to be an important omission in the Order that no definition of an alcoholic beverage is given We should have thought that it would have occurred to the authorities that the Order would be incomplete without a schedule As it is, the sale of alcoholic beverages of the kind we have described during prohibited hours has been carried on apparently unchecked. There is evidence also that the demand for these British wines has largely increased since at several shops it is a common experience to be told that the retailer is out of stock owing to the sudden popularity of this class of liquor On the other hand, some traders know perfectly well that such preparations are alcoholic, for they definitely refuse to sell them during prohibition hours But this attitude of compliance with the law is not shown everywhere, as this week we purchased at a grocer s shop at 3.30 P M, a bottle of raisin wine which on analysis proved to contain 10 per cent by volume of alcohol Similarly a sample of ginger wine was found to contain 11 61 per cent of alcohol Cordials, we know, are prepared on similar lines to British wines, but cordials are not fermented or fortified with spirit, and are generally labelled distinctly as non alcoholic If anyone will trouble to look up in an ordinary book of domestic recipes the section of home made British or fruit wines, he will find that in most examples the product is allowed to ferment for some time, and it is not surprising, therefore, that the alcohol, as in the cases we have quoted, grows to 10 per cent Further, in a number of recipes it is recommended to add to the partly fermented liquor brandy to the extent of 4 per cent This process recalls the preparation of port, for in this case the grape juice is allowed to ferment up to a certain point, and then the fermentation is stopped by the judicious addition of brandy Mulberries and bullaces thus make, we read in one book of recipes, “an excellent factitious port” In a similar way the following wines are prepared with or without the addition of sugar Gooseberry wine (British champagne), elder wine, damson wine, rhubarb wine, celery wine, parsnip wine, turnip wine, orange wine, cowslip wine, and so forth. It is a notorious fact that many teetotalers exhibit a preference for beverages which they regard as non alcoholic, but which on analysis prove to contain alcohol In some of the herb beers and in ginger beer, which is a fermented beverage, alcohol invariably occurs, and sometimes to the extent of from 4 to 9 per cent of proof spirit (50 per cent alcohol) It may be right to call these temperance drinks, but it would not be correct to describe them as non alcoholic The legal limit of alcoholic strength of temperance or non excisable drinks is 2 per cent proof spirit, and the unlicensed sale of beverages containing over this amount ought to be followed by penalties British wines are prepared on practically the same lines as foreign wines, and contain as much alcohol, therefore they cannot be exempted from the provisions of a Prohibition Order, and the teetotaler who finds satisfaction in the drinking of these wines should be disillusioned as to the source of his satisfaction Non abstainers know well that their feeling of satisfaction after drinking British wines is due to alcohol, and alcohol alone, and they have obtained what they wanted in prohibited hours because of the belief that British wines are necessarily non alcoholic That, as we have shown, is not the case

PROPOSED REFORMS CONCERNING VENEREAL DISEASE IN SWEDEN.

THE proposals of the Swedish Royal Commission on Venereal Disease with regard to the regulation of prostitution are based on the almost general admission that in its present form the regulation of prostitution by the police is neither humane nor effective enough The Commission has accordingly advocated the abolition of regulation in its present form, and has put forward the following proposals, which it is hoped will reduce the incidence of venereal disease without reacting too harshly on its victims 1 Abolition of the regulation of prostitution 2 Institution of an educational campaign among the public for the furtherance of knowledge of the infectious nature of venereal disease. 3 Assumption by medical men who examine and treat patients suffering from venereal disease of the responsible task of teaching these patients how to avoid further spread of the disease 4 Transfer of every expense in connexion with the examination and treatment of venereal disease, even among the well to do sometimes, to the sanitary authorities (this has already been the practice with regard to the hospital treatment of venereal disease, but the Commission's proposal extends this principle to the costs of diagnosis and of ambulatory treatment) 5 Notification of venereal disease by medical men with a view to its distribution throughout the country being ascertained (a modified form of notification has existed since Dec 30th, 1911) 6 Adoption of certain measures, compulsory if necessary, against sources of infection, with a view to the medical control and treatment of such cases These measures include (*a*) tracking down the source of infection largely by the help of notification by medical men, (*b*) compulsory sanitary control of persons coming under the vagrancy laws, and (*c*) supervision of certain persons who, in addition to being guilty of other offences, are suspected of suffering from venereal disease The Commission is in favour of the vagrancy laws being applied, as in the past, to those prostitutes who, "being unwilling to work honestly, have adopted dissolute living as their only or main means of support" Two of the Commission's members, Professor J E Johansson and Otto Westerberg, have dissented from the proposals referred to under (*a*), (*b*), and (*c*) The Commission has also advocated certain reforms in the hospital treatment of venereal disease,[1] and has recommended the insertion of penal clauses as a deterrent to the spread of infection Alterations in the laws dealing with such institutions as brothels are also suggested, as well as punishment for persons who encourage immorality in a manner calculated to provoke general disgust

QUARTAN MALARIA RELAPSE 42 YEARS LATER

Dr I van der Heijden records in the *Nederlandsch Tijdschrift voor Geneeskunde* (1915, vol ii, p 1680), the case of a labouring man, aged 64 years, living in Rotterdam, who developed a typical quartan malaria in February, 1915 The patient's blood contained the characteristic parasites, and the fever was rapidly cured by the exhibition of sulphate of quinine The writer remarks that cases of quartan malaria, never common, are unknown in the quarter of the town in which this instance occurred, as also is the anopheles, he concludes that the patient had a relapse from an old infection occurring when he was 20 years old At this period the man was working as a farm labourer near Leyden, and lived in the same house as a peasant who was suffering from quartan ague Dr van der Heijden's patient was attacked by the fever himself and suffered from it for about a couple of years He remembered that during this time he was able to work for periods of two and a half days, but then had to go to bed when the sweating stage supervened in the afternoon, next day he would be fatigued, but able to work After about two years he was given a medicine, presumably one containing quinine, that cured both himself and the peasant The quartan ague never returned till 1915 Dr van der Heijden comes to the conclusion that there can be no question of a new infection with the parasites of quartan malaria in this instance, he is therefore obliged to conclude that the case was one of a relapse 42 years after the original infection He notes that the patient had been living in Rotterdam for the last few years—he does not say for how many, and he presumes that he had the quartan parasites latent in his bone marrow all the time

THE "BROWN STUDY"

AT the present time there can be no more unpopular view, or shall we say no greater heresy, than to claim any advantage from the use of alcohol True, there are occasional evidences in the letters of soldiers that courage has been raised, drooping spirits revived, even successes achieved by the help of the rum ration, but even this moderate dose of stimulant is condemned by many persons of experience We wonder that these persons have never attempted to show that there is a state of mind which sometimes comes about in *pure sobriety* in which ideas flow readily, resolutions are quickly reached, speech finds its correct expression, and the physical well being makes itself unusually obvious—a state of mind which much resembles, in fact, that temporary exaltation which is most easily achieved by the moderate use of alcohol It is in such a state that truths dawn suddenly and clearly upon the unclouded intelligence It is in such a state that mighty actions are conceived poems born at a stroke, and mankind enlightened through the enlightenment of the individual. Because such a state is in rare individuals produced by moderate libations we have the saying "In vino veritas," but this clarity of the mental atmosphere can be and should be obtained without drinking It often is This happy result comes about through what is sometimes known as the "brown study' In this state of mind there is such a concentration of mental energy that the body is ignored The mind, on the other hand, is so working upon the subject which concerns it, is so intent upon its own affairs, that the external world is obliterated and any bodily discomfort that may have been pre existing is now negligible and unnoticed In the mental ardour of composition, be it literary, pictorial, musical, the creator is relieved from all bodily woes Thomas Hood forgets his lungs and Richard Wagner his poverty Over and over again in the history of men who have created things we find evidence of this glorious pre eminence of mental activity over all the detractions of poor surroundings or bodily ill health While they are in a "brown study" nothing can hurt them A similar exaltation is that which accompanies the mental concentrations of the Indian Mahatmas It is well known that these men can for long periods ignore even the usually necessary means of bodily subsistence, and it is claimed that in this state of spiritual exaltation powers of insight and of divination become possible to them that to the ordinary man may well seem to partake of the miraculous We need not believe the claim even while we see that the Indian fakir is able to utilise in a wonderful way the relationship between mental activity and bodily state And it is just this relationship which is not realised either with sufficient frequency or with sufficient thoroughness by the European to day The average man is too engrossed with his bodily pabulum, and in caring for the needs of the body he neglects the needs of the mind If the "brown study" were more often cultivated many people would be happier and more clear thinking would be done

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[1] THE LANCET Dec. 11th 1915, p. 1308.

TEETHING AS A CAUSE OF SYMPTOMS IN INFANTS

THE problem of dentition in infants in one shape or another reappears from time to time in medical literature all the world over, and mothers and nurses appear to be, as a correspondent of THE LANCET points out this week, in entire agreement that teething is the *fons et origo* of that miscellany of ailments to which infants during the period of dentition are peculiarly prone It may further be asserted with some confidence that the majority of family practitioners are of the same opinion in a somewhat restricted sense The dissentients from this view are mainly to be found in the ranks of hospital physicians and specialists, but even among pædiatric physicians of the first rank there are diversities of opinion on this thorny question To give a few instances only, Dr A Jacobi, of New York, a pronounced sceptic and the Nestor of pædiatrics, caustically remarks in his "Therapeutics of Infancy and Childhood" (p 315) "There are, fortunately, practitioners who prefer making a diagnosis of the real condition of the ailing baby, and that and its improvement or cure comprise the main treatment I recommend for 'difficult dentition'" Dr Leonard Guthrie, whose opinion both as a neurologist and as a specialist in the diseases of children deserves the most respectful hearing, devotes in his "Functional Nervous Disorders in Childhood" an entire chapter to the disturbances associated with primary dentition. He discharges whole broadsides of good natured chaff at the expense of those who believe that the physiological process of dentition has pathological consequences He says on p 173 "I believe, therefore, that the ordinary phenomena of painful dentition are dependent on alimentary disturbances associated with a 'common cold,' and that dentition is painful because the gums become unhealthy" Dr G F Still, in a wholly admirable article on the same subject in his "Common Disorders and Diseases of Childhood," gives a long list of the symptoms which he ascribes to the process of teething, and concludes with the words "I am inclined rather to enlarge than to restrict my own conceptions of the rôle of dentition in producing disturbances of various kinds in infancy" Sir James Goodhart, in his "Diseases of Children" (seventh edition), says "Increased activity of all the physiological processes at work necessarily implies greater risks of friction between one organ and another, or even of regular breakdown Excessive energy, if not properly regulated or adequately expended, is liable to lead to an explosion of some sort or another' With such divergences of opinion between experts of unquestioned authority, how shall lesser men decide? It may, however, be remarked that the majority of authorities who write, at any rate authoritatively, on this problem and who as teachers have great influence in formulating opinion among practitioners, acquire the larger proportion of their knowledge from so called pathological experiences, for the greater number of children and infants whom they see are either sick or ailing On the other hand, it is interesting to note that the opinion of that now considerable number of medical men and women who act as officers to Infant Welfare Centres is almost unanimously in favour of the belief that teething is a common cause of disturbance to health, this fact is instructive, because at "Infant Consultations" the vast majority of the infants are relatively healthy[1] It has been claimed that dentition is a physiological process, and that since no physiological process should be accompanied by pain, dentition itself cannot be the cause of pathological phenomena. This syllogism is unsound in its major premise, in its minor premise, and in its general conclusion There is no true distinction between a physiological and a pathological process, both are designed to preserve life in the manner best suited to meet the existing conditions of the environment If they should happen to be accompanied by pain or other disturbance of bodily harmony so much the worse for the individual Pain is one of the most efficient means of protecting the body against existing dangers, and is in essence physiological Parturition is a physiological process and a distinctly painful one, especially in the case of the contracted pelvis, and so also may be the process of dentition in the contracted jaw of civilisation, as many can avow from personal memories of the cutting of the wisdom teeth During the period of dentition many symptoms develop either as a consequence of, or coincident with, the eruption of each tooth which must give the careful observer much food for reflection The almost invariable flush on the cheek of the healthy child, the running of the nose or the lacrymation in those less fit, the pharyngeal cough, the bronchitis or the diarrhœa in those of still poorer condition are best capable of explanation as the misdirected incidence of nervous energies, whether reflexly or by irradiation engendered by the eruption of the tooth, taking effect in organs or in situations of least resistance This may possibly explain why when any particular function has previously been disturbed there is apt to be a recurrence of the event during the period of dentition—why, in other words, the child always cuts its teeth "with bronchitis or diarrhœa," as mothers and nurses are wont to believe

ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF PULMONARY TUBERCULOSIS

THE treatment of pulmonary tuberculosis by induction of pneumothorax was introduced by Forlanini, of Pavia, in 1882, and was later, but quite independently, advocated by Murphy, of Chicago, who in his address on the Surgery of the Lung at the annual meeting of the American Medical Association in 1898 reported 5 cases The method became popular on the continent, where a large amount of clinical and experimental work was done, of which the most important was the use of the water manometer by Saugman, of Christiania, to measure the intrapleural pressure In this country the method was neglected for many years, but recently has come into vogue In the *Journal of the American Medical Association* of Nov 27th, 1915, Dr T B Sachs has published an important paper on the results obtained by 24 American observers in 1145 cases The stage of the disease is reported in 1028 cases Of these, 88 7 per cent were "far advanced," 10 6 "moderately advanced," and 0 7 "incipient" 77 per cent were bilateral and 23 unilateral Cavities were present in 53 per cent In 23 per cent there were complications, such as laryngeal or intestinal tuberculosis, pleural effusion, or empyema. In about half of the cases no improvement was obtained, in 29 2 per cent temporary improvement followed, and in 21 7 per cent arrest or cure The large proportion of advanced cases must be taken into consideration in judging the results Sufficient data do not yet exist to show the ultimate results, as the method has been extensively practised only in the last few years So far it seems that permanent arrest is obtained in about 12 per cent, and a palliative effect of variable duration in about twice that number But it must be remembered that these figures are obtained from all the cases in which the method has been tried, and include cases in which obliteration of the pleural cavity by adhesions prevented, partially or completely, the induction of pneumothorax In cases in which the method is specially indicated the results are much better Thus the disease was arrested in about half of the unilateral cases Further, it must be remembered that the method is generally resorted to when all other treatment has failed The best results are obtained before the formation of extensive pleural adhesions, and before there is marked affection of the opposite lung or irreparable loss of health With gradual improvement of the technique and more careful selection of cases accidents during the production of pneumothorax have diminished The nitrogen should never be allowed to enter until the manometer shows, by sustained negative pressure and free oscillations, connexion with the pleural cavity Pleural effusion is the most frequent complication of the operation It occurred in 113 of the cases There is a considerable difference of opinion as to its effect on the progress of the case Pleural shock occurred in 26 cases, but in no instance was fatal Its symptoms vary from slight faintness to severe nervous disturbances, and fatal cases have been described. Gas embolism occurred in 3 cases, but this catastrophe should be almost impossible if the manometer readings before the admission of the nitrogen indicate that the orifice of the needle is in the pleural cavity Dr Sachs concludes that pneumothorax should be induced in all progressive cases of pulmonary tuberculosis which fail to respond to sanatorium treatment, regardless of the stage

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[1] An instructive chart showing the influence of dentition on curves of weight in six cases is given (Chart 7 p 59) in the Report for 1914 by the Chief Medical Officer to the Infants Department of the Bradford Health Committee.

A LOST LIBRARY

THE library of the old Corporation of English Surgeons, so rudely dispersed in 1751, had been in process of formation ever since the days of Vicary or earlier In 1562, Thomas Vicary, serjeant surgeon to Queen Elizabeth, left by will to the Barbers Company "one booke called Guido and ii billes, ii bowes, ii shefes of arrowes, &c The Guido was a work by Guido de Cauliaco or Guy de Chauliac, whose "Cyrurgia" and other works were text books of that age In 1591 another serjeant surgeon, Robert Balthrop, wills his Guido to his servant, but leaves to "the companie of the Barbors and Chirurgeons of the Cittie of London the Chirurgery of that most excellent writer, John Tagaultius, the lattin booke and also the English translation that I have made thereof" This alludes to the "De Institutione Chirurgica' of Jean Tagault, published in Paris in 1543 He likewise leaves them "the Chirurgerie of the expert and perfect practitioner Ambrose Parev" Both these works he has "written into English for the love which I owe my brethren practising Chirurgerie and not understanding the Latin Tounge, and given them into the Hall for their daily use and reading both in Latin and English, and desiring that they may be kept fair and clean for my sake" These English translations have vanished as completely as the lost books of Livy, though Tagault's work was in its time so popular that it was translated into Flemish, Italian, and French, besides running through several Latin editions Not only are books mislaid, but they are quaintly misnamed in the sixteenth century Thus, another serjeant-surgeon "unto the Queen's Majesty, sick of body"—namely, Richard Ferris whose portrait appears on the extreme left of the kneeling surgeons in Holbein's well known picture—wills to the Company "a grete Pandack and another booke called a verroyce" This is probably the allusion of an unlettered practical man to the "Liber Pandectarum Medicinae' of Silvaticus, published at Venice in 1474, a gothic letter work, or to the same author's "Liber Cibalis et Medicinalis Pandectarum" (Naples, 1474), and to the "Medicina of Averroes, published in Venice in 1482 The latter work begins with the words "Incipit liber de medicina Aueroys' Hence "verroyce" We have more certain information as to the "Tables of Morus," which Mr Deputy Caldwell, in 1604, "freely gave to this Company to be distributed amongst the professors of chirurgery, freemen Some 500 copies were distributed, but the professors seem to have despised them They were thin folios of 32 pages, containing Latin tables and lists, and were probably treated as such gifts are wont to be even at the present time One copy of the "Tabulae universam Chirurgiam complectentes, ex eruditioribus Medicis collectae," fol, London, 1584, still exists in the library of the Royal College of Surgeons of England It is from the Pitt Collection, but the absence of names and graffiti on the fly leaves bears witness to original neglect During the seventeenth century a certain number of volumes, of which the titles are on record in the books of the Barber Surgeons' Company, were added to "the new library" In 1638-39, 64 volumes were chained, which would account for the 130 yards of chain bought at this time A chained book is given a tether measuring a trifle over two feet in length. At the end of the century the Company possessed Gerard's "Herbal," Stow's "Survey of London,' Dr Gwyn's MSS, Arris's five books on Surgery, the Anatomy of Cafferius Placentius, besides other works In the next 45 years we can imagine the Company adding to its collection a large number of books for books were then beginning to be published at frequent intervals These would include in time Cheselden's classical "Osteographia," the famous plates of Albinus, and the works of Heister It is curious to note that Hamilton, in 1794, describing an army surgeon's necessary library, which was to travel in bulk with the regimental baggage, mentions very few books printed prior to 1750 Modern medicine and surgery began only to make their appearance in print in the latter half of the eighteenth century when the Hunters, Cullens, Monros, Pringles, and other famous men rendered their profession illustrious. But the lost library none the less probably contained many classics such, for instance, as some 30 or so early printed books now rarely seen Curiosities also must have abounded on its shelves, as, for instance, works of astrology, of which De Bure gravely quotes many titles in his "Bibliographie Instructive" as late as 1764 Possibly the lost library contained some 600 volumes

THE IRRITABLE HEART OF SOLDIERS

In another column we publish an article by Dr C Percival White and Dr F Hernaman Johnson recording three cases of Graves's disease occurring in soldiers, and suggesting hyperthyroidism as a cause of the irritable heart of soldiers All medical men who have been attending officers and men from the Expeditionary Force have become acquainted with the so-called "irritable heart" It occurs frequently in men home from the front, and is usually only of a temporary character It is undoubtedly due to the constant strain of modern warfare, added to, in the case of officers, by the great sense of responsibility which is ever felt by them The accumulated efforts of the disturbing elements of active service produce a profound action on the nervous system generally, and the nervous mechanism of the heart likewise feels the strain Severe fright, great anxiety or worry, and great emotional disturbance have long been recognised as antecedents of Graves's disease, and it is not, therefore, a matter of surprise that this condition should develop in men invalided from the front The cases described by Dr Percival White and Dr Hernaman Johnson are of interest in drawing attention to this possibility, and will cause careful clinicians to look out for exophthalmos and the other symptoms characteristic of Graves's disease, but it remains for further observation before it can be definitely stated that this disease may explain many of the so-called irritable hearts For cardiac strain producing palpitation and irregular action of the heart is of common occurrence without the appearance of the other phenomena of exophthalmic goitre

ACUTE SPONDYLITIS

Acute spondylitis is a rare condition In the *New Zealand Medical Journal* Mr A Kinder has reported the following case A boy, aged 7 years, was admitted into hospital on April 10th, 1914, with osteomyelitis of the left tibia, which was opened and drained The temperature fell to normal, but a sinus remained It was curetted on June 17th, and, as progress was slow, the edges were bevelled off on Sept 23rd Three weeks later healing was well advanced and there was a granulating surface On Nov 18th the temperature rose to 103° F, without apparent cause, but next day it was normal On Dec. 1st the patient began to complain of pain in the back of the head and neck, and the temperature rose to 102° The neck was rigid and the head retracted, and when moved was supported by the patient with his hands in the manner typical of cervical caries Pain on movement became intense Examination of the pharynx was negative To eliminate cerebro-spinal meningitis lumbar puncture was performed, but the fluid was normal The rigidity of the neck increased and the pain rapidly spread to the upper dorsal spine Every few minutes the boy was thrown into a paroxysm of pain, the muscles being contracted in a convulsion like that of tetanus The pains shot into the shoulders and arms Morphia was given freely, as it was evident that the process was extending down the spinal canal and drainage offered no prospect of success The process became severe about the first lumbar vertebra—a point where two fairly fixed portions of the spine meet The temperature was typically septic The boy was conscious throughout the whole illness On Dec 14th lateral nystagmus was present, but there were no other signs of disease of the nervous system Lumbar puncture was again performed The fluid was under slight pressure but sterile Two days later the left pupil was contracted and the right semi-dilated, and both reacted sluggishly to light This symptom was evidently due to irritation of the sympathetic fibres of the first and second dorsal nerves The pain was as acute in the lumbar as in the cervical regions, showing that it was not due to tension but to irritation of nerve roots He steadily became worse and died on Dec 14th At the necropsy, on cutting down on the laminæ to expose the cord pus was seen to exude from the ligamentum subflavum between the sixth and seventh cervical vertebræ On removing the laminæ the extradural space was found filled with pus The suppuration extended upwards to the third cervical vertebra and downwards to the third lumbar No septic focus could be found in the bodies of the vertebræ The pus yielded a pure culture of staphylococci The vertebræ are comparatively exempt from acute osteomyelitis, the ends of the long bones seeming to offer a much more suitable nidus In this case the recrudescence of the disease eight months after the primary illness is noteworthy Discussing the treatment of acute cervical spondylitis, Mr Kinder recommends that when pain in the neck and pyrexia persist for more than 24 hours, with perhaps a septic focus elsewhere, the pharynx should be palpated If no cause can be discovered and lumbar puncture is negative a free incision should be made three quarters of an inch from the middle line on one or both sides, the laminæ exposed, and the muscles displaced outwards till the transverse process comes into view If pus wells up an attempt should be made to locate its origin with a probe If it comes from a joint this should be opened and the articular process clipped away if necessary If pus is welling up between the transverse processes an incision should be made at the posterior border of the sterno-mastoid

EXPERIMENTAL PELLAGRA

The causation of pellagra has been disputed for a long time, the two main views being that it is due on the one hand to a specific infection, and on the other that it arises from a deficiency of some essential element in the dietary In the United States of late there appears to have been an increasing belief that pellagra should be classed as a "deficiency disease," and evidence tending to support this has been found in the incidence of the malady in certain public institutions In order to test the possibility of pellagra being produced in white adults by a restricted one-sided diet, consisting mainly of carbohydrates (cereals) two medical officers, Dr Joseph Goldberger and Dr G A Wheeler, of the United States Public Health Service, have carried out an experiment in a public institution in the State of Mississippi, with the help of certain adult inmates who volunteered for the purpose, after the nature of the test and its possible consequences had been fully explained to them

Twelve white men were selected from these volunteers, and first of all kept under observation as to their health for about nine weeks before the experiment was begun It was found necessary, however, owing to "prostatitis," to eliminate one of the men The remaining 11 individuals were then placed on a diet consisting chiefly of cereals in the form of biscuits, corn bread, fried "mush" (maize that had previously been boiled), grits, rice, and collards, along with sweet potatoes, cabbage, brown gravy, sugar, syrup, and coffee No vegetable fats entered into the composition of the diet The cereals were of the best quality obtainable in the local market, and each man received on an average 3 32 pounds of food per day, having a caloric value of 2952 calories Three substantial meals were given each day Another group of 20 men were selected as controls, and they received the ordinary mixed diet of the institution The hygienic surroundings of the two groups were identical, the work allotted was the same for both, and the only difference between them was their dietary In the course of five months signs of pellagra developed in six of the 11 men placed on the restricted diet, while all the members of the control group remained in good health No case of pellagra had ever been recognised in this institution prior to the experiment The signs of the disease in the six men included dermatitis, along with nervous and gastro intestinal symptoms of a mild but marked kind It is noteworthy that the dermatitis in these cases was first observed on the scrotum of each patient It was a daily custom for the 11 men to be stripped and carefully examined, and it was in this way that the dermatitis was detected, later it appeared on the backs of the hands and elsewhere If, however, the men had not been stripped for examination the skin manifestations of the disease on the scrotum might have passed unnoticed, at least for some time It is therefore suggested that the affection of the scrotum in pellagra is possibly more common than has hitherto been believed The diagnosis of the malady was subsequently confirmed by experts called in to see the cases The results of the experiment seem to justify the conclusions of Dr Goldberger and Dr Wheeler that pellagra was caused in 6 out of 11 men who had consumed a restricted (cereal) diet for a period of about five months The details of this interesting experiment are published in the United States Public Health Reports for Nov 12th, 1915

THE INFANTILE MORTALITY OF VANCOUVER CITY

THE figures for infantile mortality in Vancouver City were at one time very high, but are now decreasing satisfactorily Mr F T Underhill, the medical health officer, stated on Dec 8th last that the figures in 1911 were 270, in the two years following 256 and 232, in 1914, 198, and that the mortality would be lower in 1915 The practical example of the medical profession may have counted for something as well as their advice A correspondent writes from British Columbia "'Physician heal thyself' has often been quoted to our profession and the retort has sometimes been hard to find, for, like our patients, we must all die, and ours is not one of the more healthy professions But at least in this part of the world we can keep our children alive, as the figures for 1911 just published show the mortality of the children of medical practitioners was less than that in any other group of 1000 children There were 1285 children of medical practitioners, with a mortality of 39, 1018 children of officers of army and navy, with a mortality of 43, 1018 children of barristers and solicitors, with a mortality of 45, 1083 children of men of no occupation with private means, with a mortality of 50, 1589 children of clergymen, with a mortality of 55"

THE DEVELOPMENT OF THE AMBULANCE TRAIN

IT is now a commonplace that disease claimed far more victims than the bullets of the enemy in all except the more recent wars, and next to ignorance of the elementary principles of hygiene, the greatest contributing factor was the herding together of the sick in camps close to the front where everything was subservient to the military necessity of the moment, and ample opportunity existed for handing on disease, once started, to the healthy soldiers. The way of avoiding these evils is to be found in the prompt removal of the sick and wounded from the fighting area to hospitals far behind the lines where ample leisure and equipment for their adequate treatment are available The history of the development of the means of transporting the sick and wounded is given by Mr E A Pratt in an interesting chapter entitled, "Railway Ambulance Transport," in his recent book on "The Rise of Rail Power"[1] The Crimea saw the first application of the railway to this end, when the wagons used for the transport of supplies on the little military line from Balaklava to the camp before Sebastopol were used on the return journey for the conveyance of the wounded, in the sitting posture it is true, but still with greater speed and comfort than ever before in the history of warfare In the Italian war of 1859 Dunant, who was then beginning to attract notice as the originator of the Red Cross, records that the wounded were taken by train from Brescia to Milan at the rate of a thousand a night, either lying on straw in goods or cattle trucks, or sitting up in third class carriages These experiences led to the suggestion by a Dr E Gurlt, in a pamphlet published in Berlin in 1860, to use hammocks suspended from the roof of the trucks, a suggestion which was not at once materialised owing to the unsuitability of the existing rolling stock It was therefore not until 1862, and in America, that the first ambulance car was planned and constructed by the Philadelphia Railroad Company This car was capable of accommodating 51 patients each on a stretcher arranged to slide in and out, with a seat for an attendant at each end of the car, which was also provided with a stove for heating soup or tea, a water tank, and a locker By using this car the patient could remain throughout the whole journey from field hospital to his destination on the stretcher on which he had been placed at the start This car was the precursor in all essential points of the luxurious ambulance train as we at present know it

AT the meeting of the Electro Therapeutical Section of the Royal Society of Medicine on Jan 21st, at 8 30 P M, a paper will be read on the Simpson Light by Dr E P Cumberbatch, who will also give a demonstration of the apparatus A note on the nature of this light, its mode of production and therapeutic properties, by Mr W D Harmer and Dr Cumberbatch, will be found in this issue of THE LANCET

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[1] The Rise of Rail Power in War and Conquest 1833-1914 by Edwin A Pratt with a Bibliography London P S King and Son Limited 1915 Pp [illegible] Price 7s 6d net

SANITATION IN BILLETS AND CAMPS

By ADAM WHITE, M B , CH B , D T.M & H EDIN ,
D P H CAMB ,
LIEUTENANT R.A.M C (T) OFFICER COMMANDING SANITARY SECTION
2/1ST NORTH MIDLAND DIVISION

(*Concluded from p 42*)

CAMPS

THE presence of bodies of troops in canvas and hut camps raises many points of sanitary interest Under such conditions of life we have a reversion to an essentially primitive mode of existence The inhabitants of the camp are removed from the immediate sheltering care of more or less benignant sanitary authorities, the sanitation of the area which they are, for the time being, inhabiting is under their own jurisdiction, and the degree of sanitary perfection which is obtained largely depends upon the initiative which is displayed by those in command of the unit or brigade and upon the advice given to those responsible commanders by their accredited medical advisers Here it may be well to emphasise the fact that so far as sanitary effort is concerned the medical officer's duty is solely advisory, and that, of course, all executive authority resides in the hands of the combatant commanding officer But it is also necessary to state that the vast majority of commanding officers are only too ready to avail themselves of, and to follow the advice given them by, their medical officers, so that the sanitary perfections or imperfections exhibited by individual camps reflect largely the amount of interest which the medical officer takes in matters hygienic

General cleanliness and smartness of appearance are insisted on in the individual soldier as a matter of discipline, and a similar cleanly state as regards the camp area should be rigorously enforced No scraps of any kind should be allowed to lie about or to be cast upon the ground, and since there must be a certain amount of casual litter to be disposed of, it is essential that receptacles should be provided for its reception and temporary storage till it can be dealt with in the camp incinerator Such receptacles may take the form of small boxes or tins obtained from the quartermaster s stores, or they may be made from lengths of wood and wire netting, after the pattern of those found in public parks In the latter case the most convenient shape is that of a cylinder, approximately 3 feet long and 1 foot in diameter These receptacles should not be too numerous in any camp area, the right proportion being about one receptacle to each row of huts or tents Each receptacle should be nailed to a post at a convenient height from the ground

It is not always easy to convince camp commandants of the necessity for the provision of these receptacles, and in the case of camps which are obviously tidy their presence need not be insisted upon , but in instances where paper and other oddments are to be found about the camp ground and when one is told that such littering of the ground is impossible to prevent, the provision of such receptacles may be advocated as a remedy

Waste Water

In large canvas camps where a sewer connexion cannot be obtained the disposal of waste water from kitchens, ablution places, baths, &c , is often a difficult matter The problem we are here confronted with is that of the removal, without the help of sewers, of sullage water for a population of somewhere in the neighbourhood of 4000 men, a number of inhabitants equal to that contained in many of our smaller towns

There is nothing else which so mars the appearance of a camp as an inefficient system of waste-water removal In addition, a faulty disposal system produces water logging of the soil and fouling of the ground surface, and this often to such an extent as to cause grave nuisance and probably injury to health For these two reasons it is absolutely essential that the system of disposal should be as perfect as circumstances will permit

In the first place, we must remember that in the majority of schemes we are going to depend upon the porosity of the ground for the removal, and it is therefore necessary that the camping ground should consist of porous soil or that, at all events, it should be possible to reach a permeable stratum at a reasonable distance from the ground surface It will therefore be apparent that when a camp site is being selected due attention should be paid to this matter, and that, when tactical considerations permit, sites which are likely to present difficulties in this direction should be ruled out as being unsuitable Even if a stream is available in the neighbourhood of the camp it is unlikely that, in the case of temporary encampments, with the means of purification at our disposal, we should be able to produce an effluent which it would be permissible to pass directly into a water course

Preliminary Treatment of Waste Water

Laying aside, as being generally impracticable, direct passage into a stream, we may say that there are three principal methods by which, either alone or in combination, we can dispose of waste water These three methods are surface irrigation, subsoil irrigation, and disposal into soakage pits

Before the waste is in a state fit to be disposed of by any of these three procedures it must be treated in order to remove from it as much of its added impurity as possible and, in particular, any contained material which will increase the difficulties of disposal The principal ingredients which come under the latter category are grease and soap, the former predominating in kitchen waste and the latter being in excess in the case of water coming from ablution places Both these constituents militate against the success of any scheme by clogging up the interstices of the soil, and in the case of surface irrigation they have the additional disadvantage that they produce an unpleasant smell and an unsightly appearance of the ground In addition to the grease and soap, all gross impurities such as particles of meat and vegetables must be removed, and over and above this, it should be our aim to extract as much as possible of the finer suspended matter

A greater degree of purification than that outlined above it will seldom be possible to attain to, and it will therefore be apparent that our final effluent must be a highly impure fluid quite unsuitable for passage into a water course Anything in the nature of actual purification of the waste cannot be expected The ancient myth that gorse or bracken will act as an efficient grease and soap retaining medium is now happily exploded, and although in the case of the type of camp of which we are at present speaking it is eminently desirable to have the sullage water disposal system as simple as possible, it is little short of flying in the face of providence to rely on anything so childish as the typical gorse grease trap which has obtained the sanction of usage but certainly not the blessing of success

The unsatisfactory results which are obtained with this and with other similar primitive forms of trap led to the initiation of experiments, which were attended by varying degrees of success, with various combinations of coke breeze filters and sedimentation pits One has found that the end result which is obtained is influenced greatly by the character of the water as regards its degree of hardness, by the methods adopted in the cleansing of cooking vessels (whether much or little water is used in the operation and whether soda is employed), by the size of the filter chambers, by the character of the filtering medium used, and by the capacity of the sedimentation pits

Methods of Disposal of Waste Water

The following is a rough description of a system which was suggested by Captain J M Hamill, and which was installed in some of the camps occupied by troops belonging to the 59th Division

The waste water from the ablution benches and kitchen wash benches is led into a coke breeze or sand filter grease trap, thence through a sedimentation pit, and finally through a second coke breeze or sand filter Before it reaches the first trap the waste is passed through a sieve made of perforated corrugated iron in order to keep back gross particulate matter The filter traps are chambers made of wood well tarred and pitched, or of bricks set in cement or puddled clay Their approximate size is 4 feet long by 2 feet 6 inches broad and 3 feet deep They contain a cross partition so placed that the trap is divided into two compartments, one being 3 feet long and the other 1 foot long This partition reaches only to a point about 6 inches from the floor of the chamber, so that the two compartments communicate at their lowest points. Both chambers are filled to within 6 inches of the top with coke breeze or sand

As regards the ultimate disposal of the waste after its purification, the simplest method is undoubtedly that of turning it into soakage pits These pits should be made from 4 to 6 feet square, their depth being mainly governed by the distance from the surface of the ground at which a permeable stratum is reached, for if these pits are to work properly, and to be prevented from becoming mere stagnant and more or less permanent collections of waste water, it is essential that a porous stratum should be actually cut into The principal advantages of efficient soakage pits are that they take up little surface space, and that if they become fouled they can be filled in and fresh pits dug

Surface irrigation and subsoil irrigation are specially useful as adjuncts to a soakage pit Their great disadvantage is the comparatively large amount of land which is required for their efficient working This disadvantage is most evident when either of these systems is used alone When they are used to take the overflow from soakage pits the disadvantage is not so apparent, as in this case a large proportion of the waste is dealt with by the pit, and only a relatively small amount remains to be dealt with by the complementary system

When a sufficiency of sloping ground is available, either surface or subsoil irrigation can be applied with advantage, the trenches or drains, as the case may be, being made to follow the contours of the irrigation area These trenches or drains should have a depth and breadth of from 12 to 18 inches, and in the case of drains the channel should be filled in with tins which have been passed through the incinerator or with fair sized pieces of hard and well fired clinker The tins or clinker will allow passage for the waste and at the same time will support the replaced turf

Food Store and Kitchen Disposal of Refuse

In all camps the food store should be a separate and distinct structure from the kitchen In too many cases the one is only a part of the other The store should be placed as far as possible from latrines and urinals, but conveniently near the cookhouse Special attention should be paid to adequacy of space, to absence of damp, to lighting, and to ventilation, and means should be taken to prevent the access of flies to the food In the case of hut camps this latter end can be secured by the provision of fly proof gauze over the windows, but in the case of tents freedom from flies is not so easy to obtain However, much can be done by keeping the food as long as possible in its original packing and by covering exposed food with muslin or similar cloth

The means for cleansing cooking and eating utensils and for washing vegetables are often found to be markedly defective At least some form of bench, no matter how simple, should be provided for this purpose, and washing and cleansing should be allowed to be done only at the place appointed If possible, water should actually be laid on to this bench, and the waste should be run into a grease filter trap of the form described

In most camps kitchen refuse, which it would be wasteful to burn, is removed under contract, and for its reception pending removal, and also for the temporary reception of garbage which is to be burned, there should be provided suitable receptacles These should be cylindrical in shape, constructed of metal, watertight and covered In a recent memorandum it was recommended that camp kitchen refuse should be classified under four heads—i e , waste bread, bones and meat waste cookhouse and table refuse, tins and tea leaves, &c so that at least four such receptacles will be needed Frequent inspections are necessary in order to ensure that garbage which should be incinerated is not placed in receptacles meant to hold otherwise disposable material

All waste material which it is not profitable to retain should be burnt in some form of incinerator Most of the incinerators described in the various text books give good results, but the one which is most generally useful in the average camp is made in the shape of a square pit 4 feet high and 4 feet square There should be an opening about 15 inches square at ground level on each side, and just above these openings some simple form of fire grate to support the burning materials should be inserted In canvas camps these pits are best made of dry brickwork backed with turf, but in the case of hut camps the incinerator should be of a less makeshift type and should be constructed of 9 inch brickwork set in cement

Disposal of Excreta

Under camp conditions the methods which may be adopted for the disposal of fæces and urine are three in number—viz., water carriage, the use of bucket latrines, and the adoption of some form of immediate earth burial

In hut camps where a sewer connexion can be obtained water carriage should be installed the form of apparatus adopted being some variety of trough closet In hut camps in which for any reason it is impracticable to adopt water carriage bucket latrines should be used In this case the building intended to house the buckets should have a concrete floor which can be readily cleansed, and great pains should be taken to make sure that efficient ventilation is provided This is best secured by the provision of adequate openings situate under the eaves In canvas camps the excreta disposal system may be in the form of a bucket latrine, or some form of earth burial may be installed

Bucket Latrines

In the case of bucket latrines great care must be exercised in their method of use and in the manner in which the buckets are cleansed and emptied if these latrines are to be prevented from becoming an intolerable source of nuisance The buckets should be of convenient size to be placed under the seat of the latrine, they should be of metal, and water tight In order to reduce the risk of fæcal matter being deposited on the ground, there should be not more than one inch of clearance between the top of the bucket and the seat of the latrine, and, in addition, there should be some form of guard or stop to hold the bucket accurately below the aperture in the seat If at all practicable, the buckets should be provided with covers which can be clamped on, as then the buckets can be removed when full to the place where the excreta are to be disposed of instead of their being emptied into some form of cart in the immediate neighbourhood of the latrine itself Frequently, however, the buckets are not provided with covers and their immediate emptying takes place into a tank cart which is used for the transport of the excreta from the latrine to the place of ultimate disposal

Before being placed for use each bucket should be well smeared over on the inside with crude mineral oil, and there should be placed in it cresol solution (strength 1 ounce to the gallon of water) to a depth of 3 to 4 inches The object of these procedures is to discourage the presence of flies and to facilitate the emptying of the buckets No bucket should be allowed to become more than about half full before being taken out of use, and the provision of buckets should be on a scale sufficiently liberal to make this possible After emptying, the buckets should be swilled out with cresol solution Buckets or tubs used as urinals should be treated in the same manner as that outlined above

The Trench Latrine System

One great objection to the bucket system is that the bucket itself is, of course merely a stage in the scheme, for the buckets have to be emptied either in the vicinity of the place of use or elsewhere, and there is a considerable risk of spillage taking place during this operation The alternative system, that of immediate earth burial, has few of the disadvantages inherent to the bucket system, and, in addition there is no difficulty with regard to the ultimate disposal of the excreta, for the place of ultimate disposal coincides with the situation of primary deposition

There are many varieties of the immediate earth burial or trench latrine system, but the two most important are known respectively as the deep trench and the short, shallow trench The principal difference between these two varieties is that, in the case of the first named, the trench is anything upwards of 2 feet wide and 2 feet deep and as long as the ground available will allow and the requirements demand, while in the case of the last named the trench is from 1 to 2 feet deep, 1 foot broad, and 3 feet long

From practically all points of view the short, shallow trench is much the more satisfactory of the two varieties In the case of the deep trench it is practically impossible to ensure that the excreta will be covered with earth immediately after the act of defæcation, whereas in the case of the shallow trench it is comparatively easy to ensure this There is therefore less risk of nuisance from smell and of the carriage of disease by flies when shallow trenches are adopted

In addition, ground which has been the site of shallow trenches can be re used as a latrine area within a measurable time, whereas the deep trench leads to a more or less permanent fouling of the ground In other words, when using the shallow trench we are utilising the services of nature to the fullest extent, for, as has been shown by Dr George Reid, county medical officer of Staffordshire (lately divisional sanitary officer of the 59th Division), and others, fæcal matter deposited in the shallow trenches is rapidly dealt with by the organisms of the ground and cannot be recognised as excrement at the end of a period of time which varies for different soils, but which can be stated as being, on the average, about six weeks

The rate of disappearance of the fæces varies roughly inversely with the depth of burial, and at a certain depth disappearance does not take place at all, and the fæcal matter remains more or less in its original state for many years The best results are obtained when the trenches are made not deeper than 15 inches, and the working rule generally adopted is to adhere to a depth of 1 foot. When this specification is acted upon even paper, if of suitable texture, disappears in the same time as that required for the dissolution of the excrement The 1 foot of breadth is postulated as being a convenient space for a man to straddle over, and, moreover, this comparatively small space makes it as easy as is possible for the user of the latrine actually to cover the fæces with earth

In the digging of these latrines great care should be exercised to ensure that the turf is removed in one piece and that all edges are made sharp and straight and all angles clean cut The earth should be finely broken up and placed at the end of the trench, so that after each act of defæcation the user may cover the dejecta with earth. Small wooden scoops or small tins should be provided for this purpose, and it should be impressed upon all concerned that the efficient working of these latrines depends greatly upon the degree of conscientiousness which is displayed in the gradual filling in of the trench with earth. When the contents of the trench reach to about 4 inches from the ground surface the remaining earth should be filled in and the turf then replaced

Provision of Separate Urinals.

Where trench latrines are installed, distinct and separate urinals must be provided, as these latrines cannot be used for the disposal of urine. Many of the urinals which are described in the text books do not give satisfactory results, but the following is a description of a type which has adequately answered the purpose for which it is intended

A pit is dug 4 to 6 feet square and of such a depth as it is necessary to go in order to reach a permeable stratum The depth required varies, of course, in different localities, but it is generally possible to find a convenient situation in the camping ground at which porous soil can be reached within 10 or 12 feet of the surface This pit is filled to within, approximately, 2 feet of the ground level with burnt tins, large stones, or coarse clinker Four 9 inch drain pipes, one at each corner, are inserted so that their lower ends project some distance into the collection of tins and their upper ends protrude above the surface of the ground to a height of 18 to 24 inches The remainder of the pit is then filled in with earth and the surface re turfed When the work is completed only the four projecting pipes are visible The pipes should be treated daily with crude mineral oil, as in the case of latrine buckets

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND

THE WEEK'S SUBSCRIPTIONS

THE subscriptions to the *Belgian Doctors' and* Pharmacists' Relief Fund received during the week have been as follows —

	£	*s*	*d*
Pharmacists V T C Camp (collected at) per Commandant E A Atkins	4	11	6
Dr A E Causton	2	2	0
Mr A Chapman	0	11	11
Mr A E Mills	0	7	2
B M A South Indian Branch (per the Hon Treas)	5	6	10

Subscriptions to the Fund should be sent to the treasurer of the Fund, Dr H A Des Vœux, at 14, Buckingham gate, London, S W, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund crossed Lloyds Bank, Limited

NATIONAL HEALTH INSURANCE

Insurance Practice During War

A CORRESPONDENT of the *Leeds Post* complains with some justice of the hardship imposed upon medical men carrying on insurance practice for themselves and for others in circumstances of severe strain by the clerical work which such practice necessitates He states that the secretary of the North Riding Insurance Committee has been instructed to insist upon "all records, &c, being done as correctly, or even more correctly than in peace time, and to threaten that the patriotic absentee shall not receive his payment unless these records are kept" He adds that since war broke out it has been made compulsory that a patient should be seen on the day on which his certificate is given, so that a medical man may have to travel several miles in order to sign a certificate even though he may have had to visit the patient on the preceding day The writer, who signs himself "One of the Absentees,' makes two points with regard to these matters, urging, firstly, that it is not much encouragement to practitioners who enter the service of the Crown to know that they may lose their money for insured patients not through their patients being neglected, but through the records sent in with regard to them being defective, while those doing the work are also hampered in performing it, and secondly that medical men are being compelled to carry out strictly their part of a bargain which is not being fulfilled with equal exactness by those with whom they made it He urges in this connexion that practitioners are not receiving under the Insurance Acts the immunity from bad debts which was held out as one of the merits of the *insurance system* and as one of the inducements to them to serve on the panels Strictly speaking the term 'bad debts' is hardly applicable to the delayed payments made in instalments by Insurance Committees in view of the temporary financial circumstances which affect them No doubt the money owed by the Insurance Committees will in all cases be paid in full in the *end*, and though a business man might describe such debtors as "long winded," he would hardly treat their obligations as "bad debts" Undoubtedly, however prompt settlement was looked for when panel practice was instituted, and at any other time but the present it would rightly be insisted upon After the war the question will *properly* be raised if steps are not then taken to ensure the punctual receipt of fees, which in no cases are excessive in view of the work done in earning them With regard to the keeping of accurate records referred to above, it is fair to the Insurance Committees to point out that these are generally necessary with a view to the adjustment of the fees which will have to be paid in respect of the work done

The Certification Agreement in Ireland

The Insurance Commissioners have now issued to medical men who have signed the agreement with them as 'medical certifiers" a memorandum of instructions which, as was promised, modifies in important particulars certain of the clauses in the agreement itself The instructions in the memorandum are declared to be instructions issued under one of the clauses of the agreement, and thereby binding on medical certifiers The most important modification, from the point of view of medical ethics, is concerning the duty of a certifier who is asked to examine and certify for a person who is under the care of another medical man It is now definitely laid down "that a medical certifier *must refuse* to examine any such person if the certifier knows that he is being treated by *another medical certifier*, *unless* the latter has refused to issue a certificate" The exception stated in the last-quoted clause is intended to permit a member to ask a second medical man for a certificate in case he should think that his own medical attendant has unfairly refused to issue a certificate Moreover, "a medical certifier would also be justified in refusing to examine or issue a certificate to an insured or exempted person if he is satisfied and is able to satisfy the Commissioners that such person is the patient of a doctor who though not a medical certifier, is prepared to issue free of charge such certificates as may be required" The Commissioners appear to have taken pains to satisfy legitimate professional demands on this point In the event of a certificate being refused from any cause the certifier must forthwith notify the Commissioners With regard to complaints against certifiers the Commissioners may either deal with the matter by correspondence, refer it to a Local Medical Committee or investigate it at a special inquiry In any case the final judgment rests with the Commissioners The extreme penalty for an offence will be termination of the office held by the certifier but the Commissioners may inflict a monetary penalty for lesser offences, no fine, however, to exceed £5 Examples are given of the offences the Commissioners have in mind A paragraph is devoted to explanation of the difficult term "incapacity for work" In the case of short illnesses and during the earlier stages of prolonged illnesses, incapacity on the part of the insured person to follow his ordinary occupation would be the test of title to benefit according to the present general practice of Approved Societies and to the practice of Friendly Societies in the past. In the case of prolonged illnesses other considerations arise and it may be necessary to think of the possibility of the member taking up some other remunerative occupation, which could reasonably be regarded as open to him having regard both to the state of his health, his previous experience and training, local conditions, and other circumstances of the case The decision in such cases remains one of considerable difficulty On the whole, the memorandum is helpful and is evidently framed with a desire to work the new system fairly to all parties

BRIGHTON AND THE *INDIAN WOUNDED* It is officially known that no more Indian wounded are to be accommodated at Brighton Kitchener's Hospital occupying the original *Poor law* institution on the Race Hill has already been evacuated The patients have been gradually removed to the Royal Pavilion Hospital and discharged from there on convalescence Extensive alterations are now being made at Kitchener's Hospital with a view *to* adapt it for British wounded In round figures some *5000* Indian wounded have been treated at the Brighton *Hospital* and the very small percentage of deaths speaks volumes for the work of the distinguished medical staff

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE undermentioned have been entered as Surgeons for temporary service in His Majesty's Fleet —Dated Dec 18th William McHutchison Binning Dated Dec 23rd Roy Russell Kerr Dated Dec 28th Edward Pierce Llewellyn Hughes. Dated Dec 29th Robert Aitken Dated Dec 31st Joseph Patrick Fehily

The following appointments have been notified —Temporary Surgeons A. G Simmons and R R Kerr to the Victory, additional for Haslar Hospital, E G B Carpenter to the *Victory* additional for Portland Hospital, J Pratt, D S C to the *Victory* additional for disposal L S Fry to the *Bellerophon* G MacL Blair to the *Blake* G W M. Findlay J T Wilmot W McH. Binning, and W H Scott to the *Pembroke* additional for Chatham Hospital, J T E Evans to the *Pembroke*, additional, for disposal G Lillico to the *Conqueror* R K. Shaw to the *Wildfire* additional, to be lent for duty at R N.A.S Training Establishment, and T W Drummond to the *Donegal*

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel Ernest Brodribb is placed temporarily on the half pay list on account of ill health (dated Dec 18th)

The undermentioned Captains to be temporary Majors —Dated Jan 2nd Edward K. Martin, Joseph Dalrymple and Thomas R Elliott

Temporary and Honorary Captain William P S Branson to be temporary Honorary Major whilst serving with No 1 British Red Cross (Duchess of Westminster's) Hospital (dated Dec. 1st)

The undermentioned temporary Lieutenants to be temporary Captains —

Dated Oct 21st Charles G H Moore and Garnett W Twigg

Dated Nov 7th John T McCullagh

Dated Nov 10th Joe D Yule

Dated Nov 24th Fred A. R Hacker

Dated Jan. 2nd James Keenan

Dated Dec 10th Francis Robert Seymour to be temporary Captain.

The undermentioned temporary Lieutenants relinquish their commissions —

Dated Nov 9th Henry V Swindale

Dated Nov 10th William Wallace Woods

Dated Nov 28th Thomas Perrin

Dated Dec 17th George W Clark

The undermentioned to be temporary Lieutenants —

Dated Dec 1st George Herbert Simpson

Dated Dec 4th Alfred Tulloch Thompson Tom Stanbury Brook Allan Barrett John Alexander Harper, James Appleyard, Charles Henry Mossop James Norman Jackson Hartley, Basil Patrick Campbell, Colin Guy Hirst Campbell, Charles Booth Jones, Roland Sinclair, William Leslie and Matthew Wright Talbot

Dated Dec 6th John Francis Lambie, Solomon David Bridge, Frank Whinfield Bartlett Arthur Owen Evans Purser Davies, James Gordon Bell, Cecil Berry Frederick Hugh Young Augustin Pownall Fry, Edward Purcell, Rupert Cecil Lowe, Frederick Michael Bishop and James Arthur Venning

Dated Dec. 7th Robert Archibald MacNeill, Robert Townley Slinger Horace Mather William Arthur Berry, William Adam Paterson, John Charles Wilson James Christopher Wadmore and William Hackett Broughton

Dated Dec 8th George Burns Salmond Raymond Brewitt Taylor John Tudor Griffiths Daniel Colville Adam, Philip Dennis Scott Alexander Erskine Clark Herbert Andrew Watney, William Bird Loveless, and George Ellis

Dated Dec 9th Charles James Pentland John Thomas O Boyle Thomas Jones Lloyd Godfrey Russell Potter, Vyvyan Kendall Sadler, and David Irving Anderson

Dated Dec 10th Harry Joseph Cooper William Thomson Brown George Kee Everard Roney Grieveson William Joseph Spearing George Adams MacFarland John Clarke Mead James Milne Hermon, Charles Dyson Holdsworth Henry Joseph Keane Charles William Julius Dunlop William Joseph McLearn Baird William Hammond Hodgson John Christie Forbes Horace Macaulay Mills, Edward Wilfred Kirk, Robert Milne Lang and John William Hilliard

Dated Dec. 11th Ronald Campbell Cooke

Dated Dec 12th John Wesley Harvey

Philip Gordon Capon to be temporary Lieutenant whilst employed as a Dental Surgeon (dated Dec. 4th)

The undermentioned to be temporary Honorary Lieutenants —

Dated Dec 10th Basil Graves and William Henry Marshall

Overseas Contingents (Canadian Army Medical Corps) — H MacLaren to be temporary Captain (dated Nov 19th)

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

Captain Samuel Wright is placed temporarily on retired pay on account of ill health

Lieutenant Andrew C Cassells is placed temporarily on retired pay on account of ill health

Lieutenant (on probation) John B Cavenagh is confirmed in his rank

TERRITORIAL FORCE

Royal Army Medical Corps

East Anglian Field Ambulance Lieutenant Arthur E Tait to be Captain

East Lancashire Field Ambulance Major Thomas Holt, from West Lancashire Field Ambulance, to be Major

North Midland Field Ambulance Major Andrew E Hodder to be temporary Lieutenant-Colonel Captain Arthur E Tait, from East Anglian Field Ambulance, to be Captain

South Midland Mounted Brigade Field Ambulance Lieutenant William Vincent Wood to be Captain

South Midland Field Ambulance Lieutenant Walter M Cox *from* Attached to Units other than Medical Units, to be Lieutenant Lieutenant Walter M Cox to be Captain

Northumbrian Field Ambulance Captain Wilson H Morrison, from Attached to Units other than Medical Units, to be Captain Lieutenant Christopher Rogers to be Captain.

Northern General Hospital Lieutenant-Colonel Harry Littlewood, from the list of officers whose services are available on mobilisation, is temporarily placed on the permanent personnel The undermentioned Lieutenants to be Captains Balfour McKean and Robert P Anderson Captain Henry J Smith and Captain Basil H. C Lea Wilson are seconded for duty with East Anglian Field Ambulance.

Southern General Hospital The undermentioned Captains to be Majors Charles E Bean and Frederick G Aldous

London General Hospital Lieutenant Charles H. J Fagan to be Captain.

Home Counties Divisional Sanitary Section Frank Thomas Herbert Wood to be Lieutenant

London (City of London) Sanitary Company Henry Duguid to be Lieutenant Captain Charles J D Gair is restored to the establishment

London Sanitary Company Lieutenant Arthur G Whitfeild to be Captain

Highland Divisional Sanitary Section Alexander Fraser MacBean to be Lieutenant

West Lancashire Casualty Clearing Station Lieutenant Theodore H. Somervell to be Captain

Scottish General Hospital Lieutenant Patrick T Catto to be Captain

Supernumerary for Service with the Officers Training Corps — The undermentioned Lieutenants to be temporary Captains whilst serving with the Medical Unit of the University of London Contingent Senior Division, Officers Training Corps William Gilliatt and Richard D Maxwell

Attached to Units other than Medical Units —Captain William G Macfee to be Major Lieutenant Wilson H. Morrison to be Captain Frank Mainwaring Hughes and Edward Meyer de Jong to be Lieutenants.

NEW YEAR HONOURS

In the list of New Year Honours the following members of the services are mentioned Major George Andreas Berry R A M C (T), has been made a Knight, Surgeon General Sir James Porter, R N and Temporary Surgeon-General Sir William Watson Cheyne, R N were made Knight Commanders of St Michael and St George, and Surgeon General Guy Carleton Jones (Director of Medical Services Canadian Expeditionary Force) a Companion of the same Order In the Order of the Bath Fleet-Surgeon Arthur Gaskell, R N Surgeon-General William Henry Norman, R.N., Temporary Surgeon General Humphry Davy Rolleston, R.N and Colonel William Westropp White I.M.S received Companionships and in the Royal Victorian Order Surgeon-General Sir Anthony A. Bowlby was made a Knight Commander, and Staff-Surgeon Robert Joseph Willan R N a Member Lieutenant-Colonel Robert Charles Macwatt I M S received a C.I E

DEATHS IN THE SERVICES

Sir George Scott Robertson, K.C S I, the defender of Chitral Fort who died on Jan. 2nd, aged 64 was educated at Westminster Hospital Medical School and joined the Indian Medical Service in 1878 In the two following years he saw service in the Afghan War, and after acting as civil surgeon in the United Provinces became Agency Surgeon at Gilgit In 1891-92 he was the chief political officer with the Hunza Naga Expedition Most people know the story of the siege of Chitral Fort in 1895 and Sir George Robertson received the well-earned K.C.S.I for his courageous and successful defence of the fortress He was elected M P for Central Bradford in 1906.

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 largest English and Welsh towns with populations exceeding 50,000 persons at the last Census, 6019 births and 5183 deaths were registered during the week ended Saturday, Dec 25th, 1915 The annual rate of mortality in these towns which had been 18 5, 17 1, and 15 7 per 1000 in the three preceding weeks, further declined in the week under notice to 14 9 per 1000 of their aggregate population, estimated at 18,136,180 persons at the middle of the year 1914 During the first 12 weeks of the fourth quarter of last year the mean annual death rate in these towns averaged 15 4, against a corresponding rate of 16 1 per 1000 in London The annual death rate in the week under review ranged from 5·7 in Ilford, 6 8 in Enfield, 7 3 in Acton, 7 4 in Leyton, and 7 7 in Barnsley, to 21 2 in Wolverhampton and in Dewsbury, 21 6 in Stoke on Trent 21 8 in West Bromwich, 22 7 in Middlesbrough, and 23 4 in Lincoln

The 5183 deaths from all causes were 279 fewer than in the previous week, and included 319 which were referred to the principal epidemic diseases, against numbers declining from 373 to 298 in the four preceding weeks Of these 319 deaths, 84 resulted from measles, 69 from whooping-cough, 68 from infantile diarrhœal diseases, 61 from diphtheria, 28 from scarlet fever, and 9 from enteric fever, but not one from small pox The mean annual death rate from these diseases was equal to 1·0 against 0·9 per 1000 in the previous week The deaths attributed to measles, which had been 93, 81, and 75 in the three preceding weeks, rose to 84, and caused the highest annual death rates of 2·0 in Ipswich, in Swindon, and in Leicester 2 1 in Gloucester, and 3 8 in Burnley The deaths referred to whooping-cough, which had been 63, 47, and 60 in the three preceding weeks further rose to 69, of which 20 were registered in London, 5 each in Manchester and Leeds, 4 in Birmingham, and 3 each in Lincoln and Sheffield The deaths from diarrhœa and enteritis (among infants under 2 years), which had been 98, 103, and 68 in the three preceding weeks, were again 68 in the week under review, and included 15 in London, 8 in Birmingham, and 4 each in Manchester and Darlington The deaths attributed to diphtheria, which had been 62, 74, and 65 in the three preceding weeks, further fell to 61, of which 9 occurred in London, 6 in Liverpool, 4 each in Stoke on Trent and Coventry, and 3 in Birmingham The deaths referred to scarlet fever, which had been 20, 22, and 19 in the three preceding weeks, rose to 28, and included 6 in London, and 2 each in Tottenham, Birmingham, Liverpool, Preston, and Sheffield The fatal cases of enteric fever, which had been 12, 11, and 11 in the three preceding weeks, fell to 9, and included 2 each in London and Leeds

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily declined from 3110 to 2582 in the eight preceding weeks, further declined to 2462 at the end of the week under notice 206 new cases were admitted during the week, against 278, 282, and 245 in the three preceding weeks These hospitals also contained on Saturday, Dec 25th, 1915 1465 cases of diphtheria, 48 of enteric fever 24 of measles, and 12 of whooping cough, but not one of small pox. The 1345 deaths from all causes in London were 71 fewer than in the previous week, and corresponded to an annual death rate of 15 5 per 1000 The deaths referred to diseases of the respiratory system which had been 516 438, and 357 in the three preceding weeks, further fell to 329 in the week under review, but were 59 above the number registered in the corresponding week of the previous year

Of the 5183 deaths from all causes in the 96 towns, 202 resulted from different forms of violence and 428 were the subject of coroners' inquests, while 1460 occurred in public institutions The causes of 50, or 1·0 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in London and in its 14 suburban districts in Manchester Sheffield Leeds, Bristol Hull, and in 58 other smaller towns Of the 50 uncertified causes, 19 were registered in Birmingham, 7 in Liverpool, and 2 each in Stoke-on Trent Southend-on Sea, Southport Preston, Bradford, Darlington South Shields, and Gateshead

In the 95 English and Welsh towns with populations exceeding 50 000 persons at the last Census, 6824 births and 5784 deaths were registered during the week ended Saturday, Jan 1st The annual rate of mortality in these towns which had declined from 18 5 to 14 9 per 1000 in the four preceding weeks rose in the week under notice to 16 6 per 1000 of their aggregate population estimated at 18 136,180 persons at the middle of the year 1914 During the 13 weeks of the quarter just ended the mean annual death rate in these towns averaged 15·5 against a corresponding rate of 16·2 per 1000 in London In the week under review the death rate ranged from 7 5 in Southend on Sea, 8 7 in Wimbledon 9·4 in Tottenham 9 7 in Ilford and 9·8 in Merthyr Tydfil, to 22 5 in Stockport and in Gateshead, 22 6 in Blackpool 22·9 in Leicester, 23 3 in St Helens, 24 5 in Bath, and 24 7 in Carlisle

The 5784 deaths from all causes were 601 in excess of the number in the previous week, and included 355 which were referred to the principal epidemic diseases, against 293 and 319 in the two preceding weeks Of these 355 deaths 100 resulted from measles, 80 from infantile diarrhœal diseases 79 from diphtheria, 60 from whooping-cough, 22 from scarlet fever and 14 from enteric fever, but not one from small pox The annual death rate from these diseases was equal to 1·0 per 1000, and coincided with that recorded in the previous week The deaths attributed to measles which had been 81, 75, and 84 in the three preceding weeks, further rose to 100, and caused the highest annual death rates of 1 2 in Nottingham, 2·0 in Grimsby, 2 1 in Gloucester 2 3 in Bristol, 2 9 in Stockport, and 3 4 in Leicester The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 103 68, and 68 in the three preceding weeks, rose to 80, and included 24 in London, 6 in Liverpool, and 5 each in Birmingham Leicester and Leeds The fatal cases of diphtheria, which had been 74, 65, and 61 in the three preceding weeks rose to 79, of which 15 were registered in London, 6 in Birmingham, 4 in Hull and 3 each in Stoke-on Trent, Liverpool, St Helens, and Oldham The deaths attributed to whooping-cough, which had been 47, 60, and 69 in the three preceding weeks, fell to 60 and included 12 in London 6 in Sheffield, 4 each in Birmingham and Liverpool, and 3 each in Coventry Leicester and Manchester The deaths referred to scarlet fever, which had been 22, 19, and 28 in the three preceding weeks fell to 22, of which 6 occurred in London, 3 in Manchester, and 2 in Darlington The fatal cases of enteric fever, which had been 11 11, and 9 in the three preceeding weeks, rose to 14, and included 3 in Southampton and 2 each in Bolton and Manchester

The number of scarlet fever patients under treatment in the Metropolitan Asylum Hospitals and the London Fever Hospital, which had steadily declined from 3110 to 2462 in the nine preceding weeks were 2464 on Saturday, Jan 1st. 254 new cases were admitted during the week, against 237, 245, and 206 in the three preceding weeks These hospitals also contained on the same date 1490 cases of diphtheria 51 of enteric fever, 31 of measles and 12 of whooping-cough but not one of small pox The 1503 deaths from all causes in London were 158 in excess of the number in the previous week, and corresponded to an annual death rate of 17 4 per 1000 The deaths referred to diseases of the respiratory system which had declined from 516 to 329 in the four preceding weeks, rose to 346 in the week under notice but were 216 fewer than the number in the corresponding week of the previous year

Of the 5784 deaths from all causes in the 96 towns 238 resulted from different forms of violence and 525 were the subject of coroners inquests while 1676 occurred in public institutions The causes of 71, or 1 2 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Manchester Leeds Bristol West Ham, Bradford, and in 64 other smaller towns Of the 71 uncertified causes 18 were registered in Birmingham 10 in Liverpool, 4 in Preston and 3 each in London, Bootle, Southport, and Rochdale

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2 345 500 persons at the middle of 1915 904 births and 765 deaths were registered during the week ended Saturday, Dec 25th, 1915 The annual rate of mortality in these towns which had been 22 4, 18 7, and 19 7 per 1000 in the three preceding weeks, fell to 17·0 per 1000 in the week under notice During the first 12 weeks of the fourth quarter of last year the mean annual death rate in these towns averaged 17 9 against a corresponding rate of 15·4 per 1000 in the large English towns Among the several towns the death rate during the week ranged from 10 8 in Hamilton 11 5 in Kirkcaldy and 12 4 in Ayr, to 18·9 in Coatbridge 23 5 in Perth and 25 4 in Greenock

The 765 deaths from all causes were 123 fewer than the number recorded in the previous week, and included 50 which were referred to the principal epidemic diseases against numbers declining from 87 to 64 in the three preceding weeks Of these 50 deaths 16 resulted from measles 12 from scarlet fever 11 from infantile diarrhœal diseases 8 from diphtheria 2 from whooping cough and 1 from enteric fever, but not one from small pox The mean annual death rate from these diseases was equal to 1 1, or 0·1 per 1000 higher than that recorded in the large English towns The deaths attributed to measles, which had been 31 24 and 24 in the three preceding weeks, fell to 16 and included 4 each in Glasgow and Coatbridge, and 3 each in Greenock and Hamilton The deaths referred to scarlet fever, which had been 11 20, and 11 in the three preceding weeks, numbered 12 of which 4 occurred in Aberdeen and 2 each in *Glasgow, Edinburgh, and* Dundee The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 17, 12, and 8 in the three preceding weeks rose to 11, and included 5 in Glasgow and 2 in Aberdeen The fatal cases of diphtheria which had been 21, 19 and 14 in the three preceding weeks, further fell to 8, and included 2 each in Glasgow, Dundee, and Paisley The deaths from whooping cough were registered in Glasgow and Greenock, and that from enteric fever in Glasgow

The deaths referred to diseases of the respiratory system, which had declined from 322 to 208 in the four preceding weeks further fell to 155 in the week under notice, but were 20 in excess of the number recorded in the corresponding week of the previous year The deaths from various forms of violence numbered 28, against 17 and 38 in the two preceding weeks

In the 16 largest Scotch towns with an aggregate population estimated at 2,345,500 persons at the middle of last year, 991 births and 782 deaths were registered during the week ended Saturday, Jan 1st The annual rate of mortality in these towns, which had been 18 7, 19 7 and 17·0 per 1000 in the three preceding weeks, rose to 17·4 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death rate in these towns averaged 17·9, against a corresponding rate of 15 5 per 1000 in the large English towns In the week under review the death rate ranged from 7 6 in Falkirk 10·5 in Clydebank, and 11 8 in Perth, to 24·8 in Coatbridge 27·0 in Hamilton, and 28·0 in Greenock

The 782 deaths from all causes were 17 in excess of the number in the previous week, and included 74 which were referred to the principal epidemic diseases against numbers declining from 87 to 50 in the four preceding weeks Of these 74 deaths, 26 resulted from measles, 21 *from* scarlet fever, 11 each from diphtheria and infantile diarrhœal diseases and 5 from whooping-cough but not one from enteric fever or from small pox. The annual death rate from these diseases was equal to 1·6 against 1 0 per 1000 in the large English towns. The deaths attributed to measles, which had declined from 31 to 16 in the four preceding weeks, rose to 26, of which 6 occurred in Greenock, 5 each in Coatbridge and Hamilton, 4 in Glasgow, and 3 in Edinburgh The deaths referred to scarlet fever, which had been 20 11, and 12 in the three preceding weeks, rose to 21, and included 7 each in Glasgow and Aberdeen and 4 in Edinburgh *The fatal cases of diphtheria* which had declined from 21 to 8 in the four preceding weeks rose to 11 and comprised 4 in Glasgow, 2 each in Edinburgh, Paisley, and Kirkcaldy and 1 in Leith The deaths of infants (under 2 years) from diarrhœa and enteritis which had been 12, 8, and 11 in the three preceding weeks were again 11 in the week under review and included 6 in Glasgow and 2 in Aberdeen The 5 *deaths referred to* whooping-cough were slightly in excess of the average in the earlier weeks of the quarter, but showed no excess in any particular town In addition to the above deaths a fatal case of typhus was recorded in Dundee

The deaths referred to diseases of the respiratory system, which had declined from 322 to 155 in the five preceding weeks were again 155 *in the* week under notice and were 55 below the number registered in the corresponding week of the previous year The deaths from the several forms of violence numbered 32 against 38 and 28 in the two preceding weeks

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HEALTH OF IRISH TOWNS

In the 27 town districts of Ireland with an aggregate population estimated at 1,212 380 persons at the middle of the year 1915 383 births and 396 deaths were registered during the week ended Saturday, Dec 25th, 1915 The annual rate of mortality in these towns, which had been 21 8 20·0, and 22 2 per 1000 in the three preceding weeks fell to 17·0 per 1000 in the week under notice. During the first 12 weeks of the fourth quarter of last year the mean annual death rate in these towns averaged 18 2 against corresponding rates of 15 4 and 17·9 per 1000 in the English and Scotch towns respectively The annual death rate for the week mentioned was equal to 17·0 in Dublin (against 15·5 in London and 17·0 in Glasgow), 18 1 in Belfast 17 7 in Cork 20·2 in Londonderry, 19·0 in Limerick and 20 9 in Waterford, while in the 21 smaller towns the mean death rate did not exceed 13·5 per 1000

The 396 deaths from all causes were 120 fewer than the number registered in the previous week and included 38 which were referred to the principal epidemic diseases against 37 and 46 in the two preceding weeks *Of these* 38 deaths 19 resulted from measles 8 from infantile diarrhœal diseases 4 from whooping-cough 3 *from* scarlet fever and 2 each from enteric fever and diphtheria but not one from small pox. The *mean annual* death rate from these diseases was equal to 1·6 against corresponding rates of 1·0 and 1[illegible] per 1000 in the English and Scotch [illegible]

deaths attributed to measles, which had been 15, 14, and 18 in the three preceding weeks, numbered 19 in the week under review and comprised 12 in Dublin and 7 in Belfast The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 12, 9, and *10 in the three preceding* weeks, fell to 8, of which 6 were registered in Dublin The fatal cases of whooping cough which had been 11, 5 and 8 in the three preceding weeks, fell to 4, and included 3 in Belfast The 3 deaths from scarlet fever were slightly below the average in the earlier weeks of the quarter and showed no excess in any town The fatal cases of enteric fever were registered in Dublin and those of diphtheria in Dublin and Bangor

The deaths referred to diseases of the respiratory system, which had been 144, 122, and 121 in the three preceding weeks, further fell to 94 in the week under notice Of the 396 deaths from all causes 109, or 28 per cent., occurred in public institutions, and 8 resulted from violence The causes of 19 or 4 8 per cent, of the total deaths were not certified either by a registered medical practitioner *or by* a coroner after inquest, in the large English towns the proportion of uncertified causes did not exceed 1 0 per cent.

In the 27 town districts of Ireland with an aggregate population estimated at 1,212,380 persons at the middle of last year 502 births and 564 deaths were registered during the week ended Saturday, Jan 1st The annual rate of mortality in these towns, which had been 20·0, 22 2 and 17·0 per 1000 in the three preceding weeks, rose to 24 3 per 1000 in the week under notice During the 13 weeks of the quarter just ended the mean annual death rate in these towns averaged 18 7, against corresponding rates of 15 5 and 17·9 per 1000 in the English and Scotch towns respectively In the week under review the annual death rate was equal to 24·0 in Dublin (against 17·4 in London and 15·9 in Glasgow), 25 1 in Belfast 32 0 in Cork 13 9 in Londonderry 16 2 in Limerick, *and* 22 8 *in* Waterford, while in the 21 smaller towns the mean death rate was 24 1 per 1000

The 564 deaths from all causes were 168 in excess of the number in the previous week, and included 60 which were referred to the principal epidemic diseases against 46 and 38 in the two preceding weeks Of these 60 deaths, 22 resulted from measles 12 from whooping-cough 10 from scarlet fever, 9 from infantile diarrhœal diseases, 6 from diphtheria, and 1 from enteric fever, but not one from small pox. The annual death rate from these diseases was equal to 2 5, against corresponding rates of 1·0 and 1 6 per 1000 in the English and Scotch towns respectively The deaths attributed to measles, which had been 14, 18, and 19 in the three preceding weeks, rose to 22, and comprised 9 each in Dublin and Belfast, and 4 in Cork The deaths referred to whooping cough, which had been 5, 8 and 4 in the three preceding weeks, rose to 12, of which 4 occurred in Limerick and 3 in Dublin The fatal cases of scarlet fever, which had been 4, 7, and 3 in the three preceding weeks, rose to 10, and included 5 in Belfast and 3 in Cork The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 9, 10, and 8 in the three preceding weeks were 9 in the week under review, and included 4 in Dublin and 2 in Belfast The 6 deaths referred to diphtheria comprised 4 in Cork and 2 in Dublin, and were 3 in excess *of* the average in the earlier weeks of the quarter The fatal case of enteric fever was registered in Belfast

The deaths referred to diseases of the respiratory system, which had declined from 144 to 94 in the four preceding weeks, rose to 152 in the week under *notice* Of the 564 deaths from all causes, 155 or 28 per cent, occurred in public institutions, and 20 resulted from violence. The causes of 27, or 4 8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, in the large English towns the proportion of uncertified causes did not exceed 1 2 per cent

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PRESENTATION TO DR. T J. WALKER.—Dr Walker who in August of last year, was presented with the freedom of the city of Peterborough, was on Dec. 22nd last the recipient of his portrait in oils painted by Mr Fiddes Watt A R S A The presentation, which took place in the Fitzwilliam Assembly Rooms, was made by Mr G C W Fitzwilliam who said that Dr Walker was admired for his professional abilities, was looked upon as one of the greatest citizens of Peterborough and was loved as *friend*, companion, and neighbour Accompanying the portrait was a book containing the names of 750 subscribers and bearing on the title page the following inscription "On the completion of the eightieth year of his age, his friends and neighbours presented Dr Thomas James Walker Doctor of Medicine, Fellow of the Royal College of Surgeons Justice of the Peace Volunteer Decoration, his portrait painted by Fiddes Watt, A R S A [illegible] a token of their esteem and affection [illegible]ember, 1915"

Correspondence.

"Audi alteram partem."

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND

To the Editor of THE LANCET

SIR,—The wind up of the year brings back to my mind the events which occurred a year ago at the same period, when you gave me the opportunity to expose to you the sufferings of my countrymen, the crimes committed in Belgium, and the sad situation in which so many Belgian doctors and pharmacists were living

Under the management of a medical committee, you immediately called upon the spirit of fellowship of the members of our corporation, and I enjoyed the moving consolation to find that your call was responded to from all quarters of the world

On behalf of my colleagues in Belgium, although I have been unable for a good while to communicate with them, I grasp this opportunity to deeply express to you, to the chairman and gentlemen of the committee, my heartfelt thanks for the lasting effort made by all of you during the past year The voices of all those you have so generously assisted in their sufferings, of whom you may have saved life, cannot yet reach you, the Germans are still there to prevent it Later on, when we shall be free, when we shall be able to think again and to express openly our feelings, they will tell you themselves—better than I could—the greatness of your assistance

I will only now beg you to accept the gratitude of the Belgian doctors and pharmacists—the gratefulness of their little children, which must bless you at the distance

I am, Sir, yours faithfully,

C JACOBS

London W, Dec 31st, 1915

TREATMENT OF TRYPANOSOMIASIS

To the Editor of THE LANCET

SIR,—As is the case with so many protozoal infections of man, successful treatment entails keeping the disease under control and the infection reduced to a minimum for a prolonged period, probably at least two years In trypanosomiasis derived from infection in West Africa, Uganda, Congo, &c, this can be attained by subcutaneous injections of atoxyl or its equivalents, aided, perhaps, by antimonial preparations for shorter periods Rhodesian trypanosomiasis, however, does not yield to atoxyl or other arsenical preparations It can be kept under control by antimonial preparations, but these as a rule can only be administered in sufficient doses to be effective by intravenous injections The number of available veins is limited and in any case continued intravenous injections are painful and partake of the nature of an operation It is true that in one case we kept a patient in fair health by this method for three years, during which time 250 intravenous injections were given but this is exceptional Our object, therefore, has been, if possible, to find some form of antimony preparation that could be readily administered without causing tissue necrosis, abscess, or severe pain when injected subcutaneously, or gastric disturbance when given by the mouth Administration by means of enemata has failed For an occasional intravenous injection there is little difficulty Tartar emetic, metallic antimony, antiluetin are all successful, and no trypanosomes will be found in the peripheral blood for 3–5 days after such administration If these preparations are administered subcutaneously, whether given well diluted or in hypertonic saline solutions, or in the case of metallic antimony in Lambkin's medium, local severe pain usually persists for days, and sometimes tissue necrosis ensues

In view of this, we consider that it is worth while calling the attention of those who have such cases to deal with to a preparation of antimony oxide, and to quote in this report one case in the hopes that a more extended trial will be given to this preparation and the results recorded —

On admission, on Nov 3rd, the patient, aged 20 (Rhodesia), was treated with atoxyl subcutaneously and antiluetin by the mouth Trypanosomes were always easily found in peripheral blood and varied from one or two up to 20 to 200 leucocytes Intravenous injections of tartar emetic were in addition used and for two or three days after such injections no trypanosomes were to be found, but on the third or fourth day they would again appear to the extent of 6–24 in 200 leucocytes On Dec 8th 30 minims of Martindale's injectio antimonii oxidi (equivalent to 1 20th grain tartar emetic) were given subcutaneously daily, and no trypanosomes were found till the 14th and on that day 2 per 200 leucocytes were found whilst on the 15th the number had increased to 3 per 200 leucocytes On the 16th 30 minims of the injection of antimony oxide were given twice a day, and since then no trypanosomes have been found These injections are painless, can be repeated, and cause no more trouble than, say, a morphia injection

An extended use of this drug is well worth while, as present methods, even if they control the disease, are painful, and few will stand them for a prolonged period In cases of Rhodesian trypanosomiasis hitherto treated by other methods the termination has always been disastrous Possibly the preparation we have employed may give as satisfactory results as atoxyl does in other cases of trypanosomiasis, and it is in the hope that it may have an extended trial or that other preparations may be suggested that we have brought the matter forward —We are, Sir, yours faithfully,

C W DANIELS, M B Cantab, F R C P Lond
H B NEWHAM, M R C P Lond, D P H

London School of Tropical Medicine Royal Albert Dock, E
Dec 28th 1915

THE SUPPLY OF MEDICAL MEN FOR THE ARMY

To the Editor of THE LANCET

SIR,—What is apparently meant to be a warning appears in your issue of Dec 25th—namely, that the medical profession will only have itself to thank if the present scheme of volunteering fails and conscription has to follow And yet I venture to suggest that were a plébiscite of the whole profession taken only a very small minority would be found to vote against complete mobilisation The civil doctor differs from other volunteers in the fact that he is to all intents and purposes ready for duty, and does not require the months of training necessary for combatants

There is no use blinking our eyes to the fact that the present scheme is manifestly unfair to many of us, say, for instance, as between a man of 42 and one of 46 The latter is not wanted, however fit he may be, or however keen, but his slightly junior neighbour is in a most difficult position. If mobilisation of the whole profession took place, and it was recognised that every man would have to do his share, either at home or abroad, all the apparent hardship would cease. A man of 50, if of reasonable health, is perfectly able to do duty in a military hospital or at a camp. But the civil doctor has a very definite duty to the public, and it ought to be possible for short periods of service, say three months, to be arranged, and let this period be the same for everybody.

I say, further, that if only as an example of what every decent minded Britisher ought to be doing now—namely, to be wearing the King's uniform, then the sooner all of us are mobilised the better. Lest this should be vetoed on the ground of expense, then let pay be given only when on actual military service.

I am, Sir, yours faithfully,
STANLEY MELVILLE.

Devonshire place, W. Dec 27th, 1915.

To the *Editor of* THE LANCET

SIR,—I have read with much interest and appreciation the leading article on the supply of medical men for the army in THE LANCET of Dec 11th, 1915, but if you will permit me to express the opinion, this most urgent question has yet to be considered on broad and logical lines. Naturally the Army Medical Department has but one object in view—the securing of as many medical men as possible for the army. This attitude is quite understandable, and I am sure that the profession is of one mind as to the absolute necessity of the adequate treatment of the sick and wounded sailor and soldier, but the ranks of the profession are limited and cannot be elastically expanded as can those of a combatant army.

The great problem which awaits solution is therefore this, How can the just demands of both soldier and civilian be met by a limited and an already depleted profession? There is only one answer to this question—by organisation, and this organisation must be made to apply to both the civil and military aspects of the problem.

In your article you refer to the steps which are being taken to organise the civilian medical service. Equally and perhaps even more important is it that an earnest effort should be made to adjust the military medical service to the conditions of the hour, for there cannot be a doubt that the medical material which has recently flocked to the service of the War Office is not employed on strictly economical lines. By economy I mean economy in the skill and time of the medical men employed. And the true reason of this economic waste is to be found in the fact that the Army Medical Department is endeavouring to meet the medical and surgical needs of an army of over 3,000,000 men in war time on the same administrative lines as those of an army of some 250,000 men during the time of peace.

The sooner it is realised that with the limited medical supply at our disposal this cannot be done without serious injury to the civil population, the sooner will the solution of our difficulties appear in sight. In other words, far reaching modifications of administrative methods are urgently needed.

If one aspect of the question is considered—i e, the administration of our home military hospitals—it is at once evident that there is economic waste of professional skill and time in the employment of medical men (*a*) in posts the duties of which consist almost wholly of non-medical administrative work, (*b*) in clerical work, such as writing up the non medical details of history, case sheets, &c, and (*c*) in the work entailed by the present cumbrous method of invaliding.

I have only alluded to one or two of the numerous aspects in which the ramifications of a peace time administration tend to economic waste when it is sought rigidly to apply it to the wholly different conditions of a great war.

In conclusion allow me to assure you that only a compelling sense of what is due to both soldier and civilian has prompted this letter.

I am, Sir, yours faithfully,
PRO PATRIA.

Dec. 19th, 1915.

A TRENCH FOOT-WARMER

To the Editor of THE LANCET

SIR,—For those most liable to trench foot owing to a less robust heart and circulation there are three requisites (in addition to a dry skin under waterproof stockings or a layer of grease) for protection against the threatening condition and for its early treatment. (1) Surface heat for the wet boots and leggings to make them conduct warmth to the skin instead of conducting it away, (2) ventilating heat to dry them, and (3), if possible, some supply of restorative heat for the abdomen and spine.

For these purposes a simple apparatus has been devised which one man can use at a time. A larger model has been planned for simultaneous use by batches of six if desired. Its principle is a novel modification (to be referred to as "thermospiry" under its other hygienic, medical, surgical, and general applications) of that of the central heating system, with the difference that, to suit the trench limitations as regards fuel, the entire heat production from a small supply of it is utilised for the sufferer's benefit with hardly any loss. That principle provides for two warm air circulations (1) one for the heated air (within a closed system, as in the radiator), and (2) a general ventilating circulation for the hot air which has passed through the "heater" to rise from under the feet into the investing atmosphere confined under impervious clothing. For relative air tightness the following provisions are made. 1. After donning an oil skin overcoat (provided at the nape with a wide outlet tube to discharge the slightly contaminated air away from the mouth and nostrils) the man steps into a tarpaulin bag and stands in it on two footplates (perforated to drain away any water and to concentrate the hot ventilation from the heater situated below the standing plate upon the wet boots and leggings). 2. He then draws up and straps the bag across the middle of the thighs—over the trousers and under all his coat skirts. These are then gathered over the bag by an outer strap above the knees. The investing air thus confined is kept in circulation in the first place by the ascending hot draught (an outer air supply tube passing in over the edge of the bag down to the heater), but that circulation is much activated by foot paddling, arm swinging, and shoulder shrugging. The "closed circuit" consists of two connected metallic air chambers (thin copper, tin, or aluminium). One is an outer skin surrounding the heater with its contained fuel. The other stands up between the foot plates as a flat hollow shield to warm the calves. Between them is arranged an air pumping box (or tambour) under a treadle worked by the right or the left toes in alternating spells, for the purpose of increasing the heat of the shield according to the rate of the air revolutions through the heating chamber below

A more complete description must be reserved for a further note after the scheme, if approved, has undergone any improvements recommended by the Royal Army Medical Department

We are, Sir, yours faithfully,
William Ewart
Charles Ewart

Upper Brook-street, W, Dec 19th, 1915

RETENTION OF URINE IN THE ADULT, WITHOUT APPARENT CAUSE, AS A PATHOGNOMONIC SIGN OF TUBERCULOUS MENINGITIS

To the Editor of The Lancet

Sir,—Dr D W Keiller Moody's interesting article in your issue of to day on retention of urine as a symptom of tuberculous meningitis recalls a paper by Dr S Vere Pearson, which appeared in the *Clinical Journal* in December, 1902, entitled "Tuberculous Meningitis in Adults Occurring as a Terminal Event in Chronic Pulmonary Tuberculosis" Though Dr Pearson's paper deals primarily with tuberculous meningitis in connexion with pulmonary tuberculosis, his remarks also have reference to meningitis complicating tuberculous lesions other than pulmonary He divides the cases into three classes Those in which the signs of tuberculosis are (1) Well recognised and advanced, (2) recognised but not advanced, and (3) indefinite or absent Dr Moody's article is chiefly concerned with the cases which fall under the third heading, which is the most important one from a diagnostic standpoint For the onset of meningitis is a matter of grave concern when it occurs in a patient who is enjoying good or even moderate health, whereas its appearance in a patient with advanced pulmonary tuberculosis merely hastens the end He gives notes of four adult patients, who subsequently developed tuberculous meningitis, in whom there was retention of urine without apparent cause, and he has come to look upon it as a pathognomonic sign of tuberculous meningitis *in adults*

Dr Pearson came to the same conclusion, for he writes —

> Retention of urine occurring in a patient with chronic pulmonary tuberculosis, whether the disease is advanced or only slight, should always suggest tuberculous meningitis where no local cause for the *retention* can be found, for it is often one of the earliest symptoms of the disease

Both authors also state that the importance of the symptom resides in the fact that the ordinary evidences of meningitis are usually absent in the tuberculous meningitis of adults, at all events in the early stages of the disease Thus two observers, working independently, have described an association which should prove of much value in diagnosis, and the publication of Dr Moody's article will lead to a greater confidence in accepting its significance

I am, Sir, yours faithfully,
H E Symes Thompson

Cavendish-square W Jan 1st 1916

⁂ In another column the sad news is announced of the death of Surgeon D W K Moody on H M S *Natal* —Ed L

ILLUMINATION IN OPERATIONS

To the Editor of The Lancet

Sir,—In his letter on this subject in The Lancet of Dec 4th, 1915, Mr J L Aymard points out the advantage of a concentrated light in a partially darkened room as contrasted with a diffused light which is only partially concentrated I think most surgeons will agree that a properly concentrat light is the ideal one for operating theatres, but the has hitherto been some difficulty in obtaining a sui able light The fault to be found with the illumin tion in most operating theatres at present is that t light is either not sufficiently concentrated upon t operating field, or else that it is too easily obstruct by the surgeon and his assistants The disadvantag of a powerful light just over the operating tab (the most usual form of lighting) are that the he from such lights is exceedingly uncomfortable the surgeon, and that dust may easily be shak off the pendant into the wound. The use of powerful arc light fixed outside the theatre, t rays from which are reflected by mirrors, to so extent solves this difficulty, but has the serio objection of being very complicated and easily p out of order

I believe by far the most suitable light is t of the type which we have installed at St Mar Hospital It consists of three motor boat he lights of 50 candle power each, fitted in t ceiling, two of them being in the corners of t ceiling at one end of the room and one half w between the two corners of the ceiling at t other end of the room The beams from all th are made to converge on to a circle about 1½ f in diameter at the operating table The lamps fixed and the table is moved to get the light in correct position The light is intense, resembl brilliant sunlight, and is cold and without shado As the rays come down from the ceiling at angle of about 45° the surgeon and his assista can move about freely without obstructing light The rest of the room is in semi darkne This is an ideal arrangement, giving an inte light where it is wanted without worrying the e since only the operating field is illuminated T lamps are air tight, and the reflectors only requ cleaning once a year, while the lamps require attention The light is controlled by ordin switches The installation is quite simple, all t is required being three good motor headlights wh give a parallel beam of light, and a transforme cut down the current to 6 volts The latter necessary on account of the extremely small f ments required to enable the whole of the light be brought within the focus of the reflectors T whole system only cost about £20 It has now b in use at St Mark's Hospital for 18 months, has proved an entire success

I am, Sir, yours faithfully,
J P Lockhart Mummer

Jan 1st 1916.

THE DEMAND FOR LOCUM-TENENTS

To the Editor of The Lancet

Sir,—May I through your columns appeal practitioners requiring a locum tenent during th absence at the front or otherwise not to be mis by representations that owing to the scarcity men they will have to pay 9 or 10 guineas a w to secure a deputy As a matter of fact, owin the generous way in which retired and elderly pr titioners have come forward, to a certain num being available on return from the front, and others ineligible for military service, the supply locum tenents is at present in excess of the dema and trustworthy men can be had at 7 guinea week Those requiring help should refuse to the excessive fees in some cases demanded, es cially by men who ought to be doing their d with the army —I am, Sir, yours faithfully,

Percival Tur. E

Adam-stree Adelphi London, W C Jan. 3rd 1916

Obituary

GEORGE OLIVER, M D LOND , F.R C.P LOND

WE regret to announce the death of Dr George Oliver, which occurred at his residence at Farnham, Surrey, on Dec 27th, 1915 He was born in April, 1841, being the second son of Mr W Oliver, a surgeon, of Middleton in Teesdale, Durham He was educated at Gainford School, and having decided to adopt his father's profession he proceeded to University College, where he had a brilliant academic career which culminated in his taking the gold medal at the M.D examination of the University of London in 1873 Even in these early days he gave evidence of a truly scientific conception of his work, and he always had a deep admiration for William Sharpey, who was professor of physiology at University College in those days Subsequent to this he started practice at Redcar, he only stayed there a few years, and in 1875 went to Harrogate, where he speedily developed a large practice, first as a general physician and subsequently as a consultant He spent altogether 33 years at Harrogate, and was recognised as the highest authority there in the special branch of practice associated with that town During the later portion of this period he used to reside in London or in Sidmouth during the winter, only living at Harrogate for the season, in 1901, however, he acquired a beautiful home in Surrey, where he spent the winter months, and it was not until 1908 that he entirely relinquished his Harrogate work This freedom from the *claims of a* busy practice during a long period of each year enabled him to prosecute original research, which he loved, some of this was carried out at the Physiological Laboratory, University College, but a good deal in his private laboratory He was always clever at any mechanical device, and most ingenious and resourceful in overcoming difficulties

He wrote extensively not only on the Harrogate waters, but also on urine testing, the fourth edition of his 'Bed side Urine Testing" was published in 1889, and his originality here was shown by the invention of testing papers known as "Oliver's test papers' But it was always the blood and its circulation that most attracted his attention, and one instrument after another dealing with this branch of science were brought under the notice of the medical world, his hæmacytometer, hæmoglobinometer, arteriometer, and sphygmometer are instances He will be especially remembered for his work in connexion with blood pressure, he it was among British physicians who chiefly insisted on the importance of estimating blood pressure in diagnosis, and the instruments of precision he introduced for this purpose will live long to keep his memory green His book on "*Studies* on Blood Pressure ' rapidly passed through two editions, and at the time of his death he was nearing the completion of a third edition, in which the book was practically rewritten It is to be hoped that this work may ultimately be published

Another branch of medical science to which he devoted himself was that relating to the ductless glands and he published papers on the suprarenal, thyroid thymus, and pituitary bodies In this direction he was perhaps best known by the remarkable paper, published in conjunction with Professor Sir Edward Schäfer on the suprarenal gland This really formed the foundation for all the enormous amount of subsequent work on the adrenal body which has resulted not only in the discovery of the functions of this formerly mysterious organ, but also in the discovery of the active principle adrenaline, one of the greatest boons to suffering humanity Although Addison many years ago had dimly conjectured the use of the suprarenal capsule, it was not until Oliver and Schäfer published their famous paper that any clear light was thrown upon the subject, and Dr Oliver at once grasped the practical application of the discovery

In 1887 Dr Oliver was elected a Fellow of the Royal College of Physicians of London, and a few years later he founded there, in memory of his old master Sharpey, the lectureship which now bears the name of the Oliver Sharpey lectureship Dr Oliver was most suitably chosen as the first lecturer under this trust, when he took as his subject "Studies on Tissue Lymph" (1904) He had previously filled the position of Croonian lecturer at the same College (1896), which gave him the opportunity of bringing prominently before the profession the importance of a study of blood pressure This does not by any means exhaust the list of his writings, for he contributed largely to the journals and also to standard works, such as "Quain's Dictionary of Medicine," in which he wrote articles on constipation and on other ailments of the bowels He was thus a man with wide attainments His recreations included photography, in which he became an expert, and until the last few years he took his exercise mostly in the form of cycling He was never a man of strong physique, but in spite of this he continued to live an active and strenuous life About five years ago he had an attack of hæmatemesis, from which he fortunately quickly recovered For about a month before he died he suffered from some bronchial catarrh, and the coughing so occasioned evidently strained the weak spot in his gastric lining On Christmas night he was again seized with bleeding, which no remedy could check, and two days later he peacefully passed away

His great aim throughout life was to make medicine a more exact science than he found it, and none can deny that he succeeded in this great endeavour The keynote of his success, both at the bedside and in the laboratory, was untiring perseverance, he was never satisfied with anything that was imperfect, but went steadily on, altering and improving his inventions until they gave absolutely correct results It was the same with his writings, he wrote and rewrote each sentence until it was absolutely clear so as to express his meaning in the fewest possible words He never hesitated to change his views when necessary, and much of what he wrote in his earlier editions was consequently amended as his apparatus were perfected and gave him results which corrected those obtained earlier with less perfect instruments He was a man of a singularly sweet, genial, and unselfish disposition, which endeared him alike to his patients and his friends He will be greatly missed not only in the scientific world but also by the large circle of his personal friends in Yorkshire, London, and Surrey

During the time he was at Redcar he married Alice, the only daughter of Mr J Hunt, of Barnard Castle, by whom he had one son and one daughter who survive him His first wife died in 1898 In 1900 he married again, Mary, daughter of Mr W Ledgard, of Roundhay, Leeds, and she survives him Dr Oliver was buried in the churchyard of the peaceful little church at Tilford on Dec. 31st, the church which he used faithfully to attend

The War.

THE CASUALTY LIST

THE following names of medical men appear among the casualties announced since our last issue —

Killed

Major F M Johnson, 6th Field Ambulance, Australian A M C, obtained his M D at Edinburgh in 1888, and prior to the war was in practice at Melbourne, Australia

Captain A G Miller, attached to the 12th Middlesex Regiment, was in England, from Melbourne, when war broke out, and joined the R A M C

Captain A. B Thompson, R A M C, 3rd East Lancs Field Ambulance (T F), graduated M B, B Ch Oxford, 1914, and was a student at the London Hospital

Lost in the Explosion on H.M S "Natal"

Staff Surgeon Alfred O Hooper, R N, graduated M B, Ch B in 1903 at Edinburgh University, and was at one time assistant surgeon at the Leicester Infirmary

Surgeon D W Keiller Moody, R N, graduated M B, C M in 1900 at Aberdeen University, and held appointments at Peterborough Infirmary, the Central London Infirmary, and Addenbrooke's Hospital, Cambridge, and was a surgeon at Haslar Naval Hospital before joining the Grand Fleet

Died of Wounds

Lieutenant W F Thompson, R.A M C, was educated at St Bartholomew's Hospital, and obtained the M.R C S, L R C P Lond in 1912

Lieutenant M B Patel, I M S, attached to the 7th Rajputs, obtained the L R C P, L R C S Edin in 1908

Wounded

Lieutenant R C McMillan, R A M C, attached to the 14th Welsh Regiment

Captain J E Brydon, R A M C (T F), attached to the R F A, Northumbrian Division, Ammunition Column (T F)

Captain T W Wylie, R A M C

Lieutenant A Wylie, R A M C, attached to the Royal Garrison Artillery

THE HONOURS LIST

The following promotions and appointments of medical men in recognition of their services in connexion with the operations of the Army and Navy are announced —

To be C B, Military Division, additional member

Fleet Surgeon A Gaskell, R N

To be C B, Civil Division, additional members

Surgeon General W H Norman, R N

Temporary Surgeon General H D Rolleston, R N

To be K C M G, additional members

Surgeon General Sir J Porter, R N, LL D, K C B

Temporary Surgeon General Sir W W Cheyne, Bart, R N, C B

To be K C V O

Surgeon General Sir A A. Bowlby, K C M G

To be M V O (4th Class)

Staff Surgeon R J Willan R N V R

The *Military Cross*, for "gallantry and devotion to duty in the field," has been conferred upon—

Temporary Captain Henry James Burke, R.A.M C (attached to the 1st/8th Battalion West Yorks Regiment (T F))

For conspicuous gallantry on Nov 8th 1915, near Turco Farm A sergeant in the front line had his leg crushed by the blowing in of a dug-out, and Captain Burke found immediate amputation necessary In order to save time he crawled across the open to get his instruments while the enemy turned a machine gun on to him In spite of their fire he returned the same way and coolly performed the operation in the trench while the enemy were shelling it heavily

Temporary Captain Bartholomew James Hackett, R A M C (attached to the 7th Battalion Suffolk Regiment)

For conspicuous gallantry and devotion to duty at Loos on Oct 2nd 1915 When the battalion to which he was attached had suffered very heavy casualties and had run out of dressings, Captain Hackett brought up a fresh supply from the dressing station, crossing over about 1000 yards in the open He has frequently attended the wounded under fire, and has shown great bravery

MENTIONED IN DESPATCHES

The following officers connected with the medical profession, and occupying the indicated positions with our armies, are recommended in Sir John French's despatch dated Nov 30th, 1915, and issued from the War Office Jan 1st, 1916, "*for gallant and distinguished service in the field*" It is a matter for deep regret that some of them are no longer with us

Staff General Headquarters Staff, &c

Atkins Temp Col. J, A.M.S
Pike Col W W, D S O
Fawcus, Lt. Col H B C M G R A.M C
Davidson Maj P D S O., R A M C
Cunningham Capt F W M., R A M C

Royal Field Artillery (T F)

Peck, Surg Maj E G W Riding Brig

ARMY MEDICAL SERVICE.

General Headquarters Staff, &c

Macpherson Surg Gen W G C B C M G
O Donnell Surg Gen T J D S O
O Keefe Surg Gen M W C B
Porter Surg Gen R
Treherne, Surg Gen F H C M.G
Woodhouse Surg Gen T P C B
Barefoot Col G H C M G
Beevor Col (temp) W C C M G (T F)
Browne Col E G
Burtchaell Col C H C M G
Cree Col. G C M G
Firth Col R. H
Holt Col M P C C B D S O
Hunter Col G D D S O
Kirkpatrick Col R C M G
MacDonald Col S
MacLeod Col R L. R
Nichol Col C E D S O
O Callaghan Col D M
Rawnsley Col G T
Russell Col J J
Scott Col B H
Skinner Col. B M M V O
Starr Col W H
Thurston Col H C C M G
Tyacke Lt Col (temp Col) N R.A.M C
Whaite Col T du B
Young Col. C A
Birrell Lt Col E T F C M G., R.A M C
Brakenridge Lt Col F J R A M C
Chopping Lt -Col A R A.M C
Cummins Lt Col S L C M G R A M C
Douglas Lt Col H E M V C D S O R A M C
Lloyd Lt Col L. N, D S O R.A.M C
Morgan Lt Col C K R A.M C
Penny Lt Col F S R A M C
Roch Lt Col H S R A.M C
Sloan Lt Col J M D S O R.A M C
Browne Maj C G D S O R A.M C
Burke Maj B B R A M C
Conway Maj J M H R A.M C
Davidson, Maj P D.S O., R A M C
Easton Maj P G R A.M C
Fleming Maj C C D S O (R— of Off)
Hartigan Maj J A R.A M C
Harty Maj T E R A.M C
Henderson Maj P H R.A.M C
Hildreth Maj H C R A M C
Richmond Maj J D, R.A.M C
Ritchie Maj M B H R.A.M C
Smallman Maj A B R A.M C.
Woodley Maj R N R.A M C
Beckton Capt J J H R A.M C
Gale Capt R. D S O R A M C
Howell Capt F D G R.A.M C
MacArthur Capt. W P R A M C
Scott Cap J W L., R.A.M C

Consultants

Dawson Col (temp) Sir B E K.C V O (Capt Lond Gen Hosp R.A.M C (T F))
Gray Col (temp) H McI W (Maj Scottish Gen Hosp R.A.M C (T F))
Lister Col (temp) W T
Thomson Col. (temp) H A (Ca — Scottish Gen Hosp R.A M C (T F))
Wallace Col. (temp) C S

Royal Army Medical Corps

Addams-Williams, Lt.-Col L.
Brogden, Lt -Col. J E
Clarke, Lt.-Col T H M. C M.G., D S O
Clements, Lt.-Col. R W
Crawford, Lt -Col V J., D S O
English Lt.-Col (temp) T. C (Capt Lond. Gen. Hosp R.A.M.C (T F))
Goddard Lt Col G H.
Hinge, Lt Col (temp Col) H A.
Hooper Lt.-Col. A. W D S O
Huddleston Lt Col. W E
Inkson, Lt.-Col. E T V C
Kiddle Lt. Col. F
Langstaff Lt -Col. J W
Leake Lt -Col J W
McMunn Lt -Col J R.
Maloprise Lt Col. C W
Marriott Lt.-Col. E. W P V
Martin, Lt -Col. H. G
Moore Lt Col. G A.
Nickerson, Lt Col W H S V C
Norman Lt -Col H H.
Rattray Lt. Col. M. MacG
Silver Lt Col. J P
Smith Lt.-Col. and Bt Col F D S O
Watson Lt -Col. A. A. (S R) (Lt. Col. R.A.M C (T F))
Wroughton, Lt Col A. O B
Ainsworth, Maj R. B
Anthonisz Maj E G
Black, Maj R B (Res of Off)
Brown Maj G H J
Campbell Maj J H
Doig Maj K. A. C
Fitzgerald, Maj FitzG G
Gibson, Maj A. W
Gowlland, Maj (temp) E. L.
Hanafin, Maj P J
Harding Maj D L.
Harding Maj H
Irvine, Maj A. E S
L'Estrange Maj E F Q
Lewis Maj R. P
Lewis Maj S E.
Low Maj N
McEntire Maj J T
Meaden, Maj A. A
Meadows Maj S M W
Mitchell Maj A. H. McN
Pascoe Maj J S
Purser Maj L. M
Rahilly Maj J M B
Riach Maj W
Ritchie Maj T F
Roberts Maj F E
Ryan, Maj E
Sampson Maj F C
Shea, Maj H F
Sinclair Maj M
Smyth Maj R S
Stewart Maj H
Sworn Maj R.
Thompson Maj R J C
Turnbull Maj J A.
Turner Maj C H
Waters, Maj W J
West, Maj J W
White Maj R K
Wiley Maj W
Adams Capt J (S R)
Allan Cap J E (S R)
Andrews Cap (temp) J A
Atkins Cap R R. G (S R)
Baird Capt J H (S R)
Ballingall Capt D C G
Barry Capt. (temp) J H
Barrett Capt H C (S R)
Beaman Cap W K
Bearn, Cap F A. (S R)
Beddows Cap E C
Bell Cap (temp) D
Bell Cap W J E (D S O)
Black Cap J F (S R)
Bourdillon Cap. (temp) L. G
Boyd Capt J E. M
Bridges Cap. A B H
Bullock, Cap (temp) A. E (killed)
Campbell Cap W K (S R.)
Carrington Cap (temp) E W (killed)
Charles Cap (temp) R
Compton, Cap A. G W (S R.)
Cree Cap (temp) I E
Dale Capt N I (S R)
Dant Cap. (temp) W S
Deane Cap F C (killed)
De La Cour Cap G
Dew Capt (temp) J W
Deaton Cap L M
Dill Cap V G
Donaldson Cap (temp) M
Dowarill Cap. J S (S R)
Dowie Cap J C N (S R)
Elliott Capt A. C
Elliot Capt E. J
Elvery Capt P G M
Chiles Evans Capt D B (S R) (Capt, Welsh F Amb, R A.M.C (T F))
Ewing Capt. A. J (S.R.)
Ferguson Capt (temp) G D
Ferguson Capt (temp.) P
Flood, Capt F G (S R)
Foot Capt (temp.) W
Forgan, Capt R (S R)
Fotheringham Capt W (S R)
Friedlander Capt H E (S R.)
Gaunt, Capt J K
Gilchrist Capt A. J (S R)
Gillespie Capt (temp) J M
Gompertz, Capt. (temp) R H C
Graham, Capt T O (S R)
Grant, Cap (temp) G L. (killed)
Gray Capt J W (S R)
Greenlees Capt (temp) J R C D S O
Griffin, Capt (temp) E H
Grogan Capt J B
Goldsmith Capt B (S.R)
Gurney Dixon, Capt (temp) S
Hairsine, Cap O (S R)
Hamilton Capt (temp) C S P D S O
Hampson Capt T (Res of Off)
Hampton, Capt (temp) F A.
Harbison Capt H. A. (S R)
Harkness, Capt J W P (S R)
Hemphill Capt R
Heslop Capt A. H
Houston, Capt J W
Hughes Capt B (W Rid F A. R.A.M.C (T F))
Jardine Capt (temp) E B
Jebb Capt A. C (S.R)
Jones, Capt (temp) H J B
Jones, Capt K. W D S O (S R) (Capt E. Lan F.A. R A M C (T F))
Kelsey Fry Capt (temp) W
Kennon, Capt (temp) R
Kerr Capt F R D S O (S R)
King Capt D R. (S R)
Knowles, Capt (temp) H R
Laird Capt (temp) D A
Large Capt S D
Lawder Capt (temp) T A.
Lothian Capt N V
Mackenzie Capt (temp) E F W
McCarthy Capt W H L. (S R)
McCullagh Capt W McK. H (S R.)
McCormack, Capt C McN (S.R)
McCurdie, Capt J R (S R)
McDonald, Capt (temp.) S F
Mackie, Capt D (S R)
McLaggan, Capt (temp) J M.
MacLean Capt (temp) I C
MacLeod, Capt (temp) J A.
McLeod, Capt (temp) J W
McNee Capt. J W (S R)
McNicol Cap (temp) J H
McQueen Cap C
McVicker Capt (temp) D
Magner Cap J J (S R.)
Marr Capt D M. (S.R)
Martin Capt (temp) E. K
Menzies Capt A. J N D S O
Millar Cap (temp) G
Miller Cap S (S.R.)
Miller Cap T MacK. (S R.)
Mitchell Cap J P (S R)
Mitchell Capt T J
Monteith Capt H G., D S O
Mullaly Cap G T (S R)
Mumford Cap (temp) W G
Nash Wortham Cap (temp) F L
Negligan Capt (temp) G E
Newman Cap R. E U
Nicol, Capt C M
O Connor Cap A P
O'Driscoll Capt J A. (S R)
O Keeffe Cap. J J
O Neill Capt E M
O'Reilly Cap (temp) C J R. P
O'Reilly Cap (temp) C J
O Riordan Capt W H
O Sullivan, Captain K L. (S R)
Ozanne, Capt R C (S R)
Parker Cap (temp) T E
Parkinson Cap G S
Parnis Cap (temp) H W
Perry Cap H. M J
Pitt Cap G
Peto Cap (temp) M
Phillips Cap E
Purchase Cap (temp) W B
Quinlan Capt W T (S R)
Ramsbottom Cap A (S R.) (Cap Lanc Field Amb R A.M C (T F))
Rankine Capt. (temp) G
Rhodes Capt. (temp) E L. N
Richards Capt (temp) O., D S O
Roberts Capt (temp) J E H
Roberts Capt (temp) R E
Robertson, Capt (temp) R C
Robinson Capt E (S.R)
Ronn Cap (temp) H. A
Russell, Capt A. W (S R)
Russell, Capt E. U
Russell, Capt (temp) W A
Sampson Capt P D S O
Sherlock, Cap H B (S R)
Smales Capt. W C
Smith Capt. H. (S R.)
Smith, Capt (temp) J F
Smith, Capt (temp.) P
Smith, Capt. S H
Somerville, Capt (temp) T V
Sparks, Capt C W (S R)
Spence, Capt (temp) D B
Stephen Capt (temp) D J S
Stevenson Capt G H (S R)
Stewart Capt (temp.) J S
Stiell Capt (temp) G
Sutton Capt E A.
Tate, Capt. R G H
Taylor Capt M. R (S.R)
Thornton, Capt (temp) F R
Tobias Capt W O (S R)
Turner Capt. F T
Tyrrell Capt W (Res. of Off)
Walker Capt. T (S.R.)
Walker Capt. (temp.) S L.
Wallace, Capt Q V B (S.R.)
Walshe, Capt S J A. H. D S O (S R.)
Ward Capt. H. K. (S.R)
Ward Capt J H. (S.R)
Wells Cap A. G
Weston, Capt (temp) A. W
Williamson Capt. M J
Wilson, Capt (temp) I S
Wolf Capt. (temp) C G L
Worthington Capt F
Wright Capt A. R
Wylie Capt T W (S R)
Young Capt (temp) R F
Alexander Lt (temp.) D C
Barnes Lt (temp) J E
Bernays, Lt. (temp) C M
Boag Lt (temp) J H.
Bolders Lt (temp) H E A.
Boyd Lt. (temp) C A.
Brown A. E (late temp Lt.)
Browne Lt (temp) B S
Cagney P (late temp Lt)
Caton Shelmerdine, Lt (temp) J.
Costobadie H P (late temp Lt.)
David Lt (temp) W E.
Douglas Lt (temp) C G
Dunbar Lt (temp) J
Dunn, Lt (temp) J C
Dunne B V (late temp Lt)
Driberg Lt (temp) J D
Fothergill Lt (temp) R H
Godding Lt (temp) H C
Harley Mason R J (late temp. Lt.)
Hughes, Lt (temp) R A.
James P W (late temp. Lt)
Kenny Lt (temp) C A.
Kirkland, Lt (temp) J T
MacKenzie, Lt (temp) M
Maginness Lt (temp) O G
McGillycuddy Lt (temp) R H
Meagher Lt (temp.) T
Menzies Lt (temp) (Lt Canadian A M.C) A. F
Roberts, Lt (temp.) C S L.
Roche Lt (temp) A. R
Rowell, Lt (temp) H A.
Saunders, Lt (temp) L D
Smallhorn, Lt (temp) C A.
Smith, A. C T (late temp Lt)
Steven Lt (temp) J F
Stewart Lt (temp) J K.
Strain, Lt. (temp) T
Tribe, Lt (temp) R H
Walker Lt (temp.) H. B
Watson Lt (temp.) D G (died of wounds)
Watson, Lt (temp) W N
Whigham, Lt (temp) J R M
Whitton, Lt. (temp) N S
Williams Lt (temp) G S (Lt Capt A.M.C)
Wood, J B (late temp Lt)
Wright Lt (temp) A. F

Royal Army Medical Corps (T.F.).

Rutherford Col J V W
Wight Col E. O
Blandford, Lt Col. L. J
Dewar Lt.-Col. T F
Martin Maj C J
Whalley Maj F W Riding Field Amb
Barling Lt Col. S G S Midland Field Amb
Benson, Lt -Col. (temp) W A. Northumb Field Amb
Clayton, Lt -Col. W K. Yorks Mtd Brig Field Amb
Collinson, Lt Col (temp) H W Riding Field Amb
Demetriadi Lt Col. (temp) L. P W Riding Casualty Clearing Stn.
Hawthorn, Lt -Col F Northumb Field Amb
Howkins Lt Col. C. H S Midland Field Amb
Lloyd Williams Lt -Col. (temp.) E. Lond. Field Amb
Mackenzie Maj (temp) (temp Lt -Col.) H G G Home Counties Field Amb
Milne-Thomson Lt -Col. A. Wessex Field Amb
O Connor Lt Col. W M Lond. Field Amb
Pickard Lt -Col. R Wessex Field Amb
Ranson, Lt -Col W Northumb Field Amb (Capt R.A.M.C (S R))
Sharp Lt Col. A. D W Riding Field Amb
Soltau, Lt Col A. B Wessex Field Amb
Ward Maj (temp Lt. Col.) J Home Counties Field Amb
Watson Capt (T F Res) C G (temp Hon Lt.-Col. R.A.M C)
Young Lt -Col. J S Midland Field Amb
Armstrong Maj W B
Bird Maj (temp) J W D S O Lond. Field Amb
Brown, Maj J P
Burkitt, Maj (temp) J C S., N Midland Field Amb
de Legh Maj H L
Don Maj. A., Highland Casualty Clearing Station
Dees, Maj A. D
Frankau Capt (temp Maj) C H S Lond Casualty Clearing Stn.
Hammerton Maj G H. L Yorks Mtd Brig Field Amb
Kay Maj T
Kidd, Maj A. E. Highland Field Amb
Mackay Maj W B
Montgomery Smith Maj E C Lond. Field Amb
Peyton, Maj (temp) T H. Home Counties Field Amb
Puddicombe Maj T P., Wessex Field Amb
Roe Maj W F
Rogers, Maj J S Y
Sweet Cap (temp Maj) H. B W Riding Field Amb
Stoddart Surg Maj A. R. W Yorks R. (T F)
Stocker Surg Maj E G., Wessex Divl. Engrs R.E (T F)
Anderson Capt J W
Barton, Capt M H.
Bates, Capt H T., W Riding Casualty Clearing Hosp
Barton Cap M H
Bennett Cap F G N Midland Field Amb
Bowie, Capt J M.
Branthwaite, Surg -Capt R. W (T.F Res)
Carnwath Capt T
Carson Capt. F S Lond. Sanitary Co
Chavasse Capt N G
Clark, Capt S., Lond. Field Amb
Cooper Capt E A. Lond. Sanitary Co
Coplans Cap M., Lond. Field Amb
Craven Cap (temp) J W Northumb Field Amb
Crowley Capt T W., Northumb Field Amb
Dale, Capt J
Dankes Capt. S H Lond Sanitary Co
Dixon Capt H B F Lond. Field Amb
Downie, Capt J., Yorks Mtd. Brig Field Amb
Draycott Capt C N Lond. Sanitary Co
Errington Capt. R. Northumb Field Amb
Fletcher Cap (temp.) J H R.A.M.C
Golding Cap. J Lond. Sanitary Co

Greene Capt C W Home Counties Field Amb
Hollis Capt. H S Home Counties Field Amb
Hunt, Capt G H Lond. Casualty Clearing Stn
Johnston Capt D M. Home Counties Field Amb
Keith Capt. W B Home Counties Field Amb
Lennane Capt. G Q Lond Sanitary Co
Lightstone Capt. H
Low Capt. H B Northumb Field Amb
MacMillan Capt. J Lond. Field Amb
Marrack, Capt (temp) J R R.A.M C
Melvin Capt G S Highland Field Amb
Metcalfe, Capt F, Northumb Field Amb
Murdoch, Capt. J
Nuthall Capt. A W S Midland Casualty Clearing Stn
Pitt, Capt W J C B S Midland Casualty Clearing Stn.
Scott Capt J A C
Smythe Capt H. J D S Midland Field Amb
Tatlow Capt. R E T
Vick Capt R M Lond Field Amb
Watt Capt J A. Lond Field Amb
White Capt. G Lond Sanitary Co
Wilkin Capt H F
Williamson Capt G S S Midland Field Amb
Wood Capt W L R
Foster Lt S R N Midland Field Amb

British Red Cross Society

Stewart, Lt Col (temp Hon.) E R.A M.C

Members of the American Chicago, and Harvard Units, Attached to Nos 22 and 23 General Hospitals, Etaples

Chancellor Dr P S
Dodd Dr W J
Faulkner Dr W E
Kazanjian Dr V
Neff Dr J M

Canadian Army Medical Corps

Bridges Col J W
McLaren, Col M
Cameron Lt Col K.
Nasmith Lt.-Col. G G
Mackinnon Maj W T M
Young Maj C A
Gibson Capt G H R
Macdonald, Capt. R H
Smith, Capt S A. D S O
Hart, Lt. W M

Indian Medical Service

Grayfoot Col B B
Berry Lt Col A E
Hamilton Lt. Col J A.
MacNab Lt. Col A J
Boulton Maj H
Bradley Maj R J
Browse, Maj G
Cruddas, Maj H M
Fleming, Maj A N
Good Maj J
Hudson Maj C D S O
Jeudwine Maj W W
Kerans Maj G C L.
Needham Maj R A.
Shettle Capt F B
Carmack Capt H S
Green Armytage Capt. V B
Middleton West, Capt. S H
Nicholson Capt R B
Paton Capt W C
Scott, Capt. J
Smalley, Capt. J
Smith Capt. C H
Whitamore Capt V N
Wood Capt C A.

Indian Subordinate Medical Department

Bal Mukand 991 1st Cl. Sub-Assist. Surg
Hira Lal 1255 1st Cl Sub Assist Surg P
Hira Singh 929 1st Cl. Sub-Assist Surg *Rai Bahadur*
Jassudasam 1286 1st Cl Sub-Assist. Surg S
Kishan Singh, 1046 1st Cl Sub-Assist Surg
McMillan, 1st Cl Assist Surg W C
Maine 1st Cl Assist. Surg W J S
Pohlo Ram 772 1st Cl Sub-Assist. Surg
Shaikh Hussain Ali Subadar and *1st Cl Senior Sub Assist* Surg
Bishan Singh 1143 1st Cl Sub-Assist Surg
Browne 2nd Cl Assist. Surg R F
Culpankum Virasami Rajagopal Pillai 2nd Cl Sub-Assist Surg
Kishan Singh 1246 2nd Cl Sub-Assist Surg
Pargan Singh 1280 2nd Cl Sub-Assist Surg
Bollard, 3rd Cl Assist Surg E H
Mathurapershad Saraswit, 1360 3rd Cl Sub-Assist Surg
Messinier 3rd Cl Assist Surg E B
Rodrigues 3rd Cl Assist. Surg J M
Browne 4th Cl Sub-Assist Surg W A

DEATHS AMONG THE SONS OF MEDICAL MEN

The *following* sons of medical men must be added to our lists of those who have fallen during the war —

Second Lieutenant A G Scott, 2nd Battalion, 3rd Duke of Wellington's *Regiment*, elder son of Mr G H Scott, of Sheffield

Corporal A F Hudson, 16th Battalion, Canadian Scottish, eldest son of Dr A B Hudson, of British Columbia (late of Cobham, Surrey)

R T Wight, Loyal Suffolk Hussars, only son of Dr T H T Wight, of Harvard

Lieutenant L H White, R N, H M S *Natal*, second son of Dr Hale White of Wimpole street, London

Second Lieutenant C S Lee, Royal Engineers, only child *of* Lieutenant Colonel W A Lee, late I M S

Lieutenant Commander T B Murray, R N, H M S *Natal*, third son of the late Dr W B Murray, of Tenbury, Worcestershire

THE CENTRAL MEDICAL WAR COMMITTEE LORD DERBY'S SCHEME

The Central Medical War Committee, which has worked out a system of recruiting officers for the R A M C, is at present completing a list of all medical men of *military age (that* is to say, all of 45 years or under) who have *not yet received* commissions It fully recognises the need for taking into consideration local and individual difficulties, and is in communication with the local Medical War *Committees* who are preparing lists of medical men of military age *for each area, classified according to the* scheme published in THE LANCET of Dec 11th, p 1321. As these local lists are completed a communication will be addressed to each medical practitioner of military age asking him to fill up a form, giving his name, age, *qualifications,* and *other* personal particulars, and another form authorising the Central Medical War Committee to forward to the War Office the application for a temporary commission in the Royal Army Medical Corps so soon as *in the opinion of that* Committee the time has arrived *for offering* his services The Committee on its part undertakes to give the applicant at least one month's notice On receipt of this form of application for a commission the Committee will at once send a certificate of enrolment, stating *that the application* has been received and is duly registered with the Committee This form of enrolment is equivalent to attestation under the Derby scheme, and applies only to men who are willing to give their whole time

The *applications for commissions* will *not* be sent into the War Office by the Central Medical War Committee until the circumstances in each case have been fully considered Thus there will be taken into account the individual's responsibilities with regard to *persons dependent upon him* and to partners, institutions, or public authorities, while in the general interests of the country the medical needs of each area will be thought of and precautions taken so that the proportion to population of medical men *remaining in civil* practice may be equalised throughout the country There are residential areas where the *proportion* of medical men in civil practice is very much *higher than in industrial districts*, and it is certain that *further* calls must be made upon *men practising* in such areas The Central Medical War Committee is aware that the conditions under which the public have been accustomed in time *of* peace to obtain the *attendance of medical men cannot* continue without modification

It is not possible to mention any number as the total of medical men who will be required by the army within a stated time, this must *depend* partly upon *the development of military operations,* and partly upon the amount of wastage among medical men already serving in the army The understanding is that when the Army Medical Department needs more medical *officers* it will state the number *required to the Central* Medical War Committee, that Committee will then inspect the whole list of enrolled men and will select those who, from the information in the possession of the Local Medical War Committees *and the general information* as to the whole country in the possession of the Central Medical War Committee, can be withdrawn *from civil* practice with least disadvantage to the public and to themselves

The scheme under *which doctors* are now invited *to enrol* with the Central Medical War Committee ensures that they will engage under the conditions which have prevailed since the beginning of the war—that is to say, the commission they promise to accept will be for a year, at the end of which time they will be able to review the position The Committee points out that if the opportunity is lost and compulsion has to be faced it is possible that the whole medical profession will be converted into a State service, when compulsion on the individual will not be limited in time, but he will be required to serve at least for the duration of the war

Measures taken in France for Prevention of Chilled Feet and Frost bite

Readers of the leading article in our issue of Dec. 11th, 1915, on the subject of trench foot will be interested in the following official summary of the measures which have been taken in France to prevent this condition —

1. Chilled feet and frost-bite are, it is stated, caused by (*a*) Prolonged standing in cold water or mud. (*b*) The continued wearing of wet socks, boots, and puttees

2. They are brought on much more rapidly when the blood circulation in the feet and legs is interfered with by the use of tight boots, tight puttees, or the wearing of anything calculated to cause constriction of the lower limbs.

3 They can therefore be prevented or diminished by (*a*) Improvements to trenches leading to dry standing and warmth. (*b*) By reducing the time spent in the trenches as far as the military situation permits (*c*) By regimental arrangements ensuring that, so far as is possible, men enter the trenches warmly clad in dry socks, boots, trousers, and puttees, and with the skin well rubbed with whale oil or anti frost-bite grease. (*d*) By provision of warm food in the trenches when possible. (*e*) By movement, when possible, so as to maintain blood circulation. (*f*) By the provision of warmth shelter hot food, and facilities for washing the feet and drying wet clothes for men leaving the trenches.

4 In order to minimise the prevalence of chilled feet and frost-bite the following instructions are to be carried out unremittingly and under the strictest supervision —(*a*) Before entering the trenches feet and legs will be washed and dried then well rubbed with whale oil or anti frost-bite grease and dry socks put on. It is of the utmost importance that whale oil or anti frost-bite grease should not merely be applied *but thoroughly rubbed in until the skin is dry* Unless this precaution is systematically carried out the oil and grease become in a great measure valueless (*b*) A second pair of dry socks will be carried by each man and, where possible, arrangements will be made for socks to be dried and reissued during each tour of duty in the trenches (*c*) While in the trenches boots and socks will be taken off from time to time, if circumstances permit, the feet dried well rubbed and dry socks put on (*d*) On no account will hot water be used nor the feet held near a fire (*e*) Where possible, hot food will be provided during tours of duty in the trenches (*f*) Where circumstances admit, long gum boots will be put on while the men's feet are dry before entering wet trenches, in order that men start their tour of duty with dry feet (*g*) When gum boots are worn it is well to support the socks by some form of fastening such as a safety pin, to prevent them from working down under the heel On no account will anything in the form of a garter be worn. (*h*) When conditions are favourable rest posts will be instituted in proximity to the trenches where men who show signs of suffering from exposure can be promptly attended to

5 Provision will be made for the washing and drying of feet in reserve billets for the exchanging of wet socks for dry ones and if possible the sending of the latter to the trenches and for drying and brushing clothes Steps will be taken to ensure that men make use of these arrangements

6 Long gum boots are being issued to the fullest extent of the supply available and every effort will be made to procure all that are necessary for men holding water logged trenches The distribution of these boots depends upon the necessity for their use and will therefore be made not according to numerical strength, but according to the nature of the trenches which have to be held

Proposal for a College of Nursing

We have received from the matron in chief of the Joint War Committee of the British Red Cross Society and the Order of St John of Jerusalem a letter signed by the Hon. Arthur Stanley, chairman of the committee, suggesting the foundation of a College of Nursing The proposal is the far reaching one of organising the teaching and examining of candidates for entrance to the nursing profession in the same way as the Conjoint Board has done this for the medical profession and the chartered institutes for other callings Promoters of the college are to be sought amongst the chairmen and governors of leading hospitals, physicians and surgeons who lecture to nurses, the principals of nurse training schools and of nursing associations, and other persons interested in the education of women If the proposals meet with general support it is believed that financial assistance can be secured to launch the college in a suitable building

The Loss of H M Cruiser "Natal."—The explosion on board the *Natal* in harbour on Thursday, Dec. 30th, 1915, led to the regrettable loss of some 300 lives, including those of Staff-Surgeon Alfred O Hooper, R N, and Surgeon Douglas W K Moody, R N, recorded in our casualty list It is a matter for congratulation that Fleet-Surgeon Ernest S Tuck was amongst the saved.

Vacancies for Medical Officers—Three medical officers are urgently required for the 2/1st Highland Mounted Brigade now sending drafts of officers and men overseas—one regimental medical officer for the 2/2nd Lovat Scouts, and two for the 2/1st Highland Mountain Brigade Field Ambulance. Full particulars of pay and duties from Captain Mowat, Officer Commanding 2/1st Highland Mounted Brigade Field Ambulance, R.A.M C 2, Mount-street, Diss, Norfolk.

Experiences in a German Military Hospital.—Dr Eloesser of San Francisco, has been working in a German military hospital for three months, and gives an account of his experiences in the *Journal of the American Medical Association* of Dec 4th, 1915 His views are very similar to those developed in our surgeons by the war Dum dum bullets may perhaps be used, but the ordinary bullet makes precisely similar wounds and the English bullet is perhaps the worst of all, the French the most humane Artillery wounds are the most horrible of the horrors of war, worse than any of the cruelties imagined by the torturers of old They are always infected and are becoming worse infected as the war goes on and the men's clothing becomes dirtier and the ground about the trenches more of a cemetery The prophylactic injection of antitetanic serum has extinguished tetanus All wounds require to be cleaned and disinfected at once, no surgeon would neglect this duty if he could see his cases two days later when inflammation has broken loose and extensive incisions are required to open up and expose to the air the infected tissues of the gas phlegmons Besides it is impossible to say when the infection is conquered It is so ready to break out again. The best splint is one well-fitting and windowed, made of plaster-of Paris but many surgeons called up for war have long forgotten how to apply that, besides, there is rarely time. Splints as usually applied are chiefly a balm to the surgeon's conscience There was no deficiency in the German hospitals in any direction, no stint of absorbent cotton or rubber goods "which one would imagine to be scant during the blockade." Great foresight is credited to the organisations which are training the crippled men to be again useful. They strive to educate each man in his own trade teaching the one-armed bricklayer mechanical drawing and architecture for example so that some of the crippled already earn larger wages than before they were wounded and their former knowledge is a foundation for that being imparted to them The number of prisoners to be fed in Germany has caused considerable difficulty In the first place it was difficult to find suitable staffs for the camps but special courses having been held last June for cooks and stewards all is now in order The Government has established a central depot for stores to diminish cost of purchases, and the diet contains

85 grm albumin, 40 grm fat, and 475 grm of carbohydrates, 2700 calories Prisoners employed get 10 per cent more, and those doing hard labour are paid for their work and can buy themselves extras The cost of the ration to the Government is 52 pfennigs (or 6½*d*) daily

THE WELSH GENERAL HOSPITAL —This hospital, to which we have already referred, is a general hospital of 1040 beds, the personnel of which is being raised by Wales for overseas service. The medical staff includes officers in charge of medical and surgical divisions, an ophthalmologist, pathologist, radiographer, and ear and throat specialist A dental surgeon with a medical qualification will also be accepted Appointments are for temporary commissions and for service with the hospital. Officers who already hold temporary commissions or Territorial commissions are not accepted, with this exception, that the officer in charge of the medical and surgical divisions, who should be consultants in their own branches may be transferred from Territorial units if they can be spared The hospital is under the command of Lieutenant-Colonel A W Sheen, R A M C (T F), and leaves probably some time in February next Forms of application for posts can be obtained from the honorary secretaries, Welsh Hospitals Offices, 47, Principality Buildings, Cardiff

WORK OF THE RED CROSS —Last week we noticed under this heading the joint work of the British Red Cross and the Order of St John of Jerusalem We now have before us the third interim report of the Red Cross work of the Indian branch of the St John Ambulance Association which took up the rôle of a Red Cross Society in India at the beginning of the war, and its remarkable achievements have called forth the highest praise from the highest authorities Some five years ago the total assets of the association in India amounted to only a few hundred rupees, while to-day it can boast of having collected the splendid sum of over three and a half lakhs, while it has dispatched Red Cross gifts and material to the value of no less than ten lakhs to the various theatres of war It has also raised 14 motor ambulances, it has sent a small fleet of motor ambulance boats up the Persian Gulf, it has assisted to equip military war hospitals in India, it has helped the sister Red Cross societies of all the Allies by gifts of material and money, besides establishing a hospital in India for the reception of severely wounded officers and men requiring electrical treatment This is not an exhaustive list of its activities, but it is sufficient to show the great value of its work The report, which is signed by the chairman of the executive committee, Surgeon General Sir *Charles Pardey Lukis*, I M S , is illustrated with pictures showing details of the work of the association

GERMANY'S PROHIBITION OF EXPORT OF MEDICAL PUBLICATIONS —A Swiss Correspondent writes "The *Journal de Genève* contrasts the present attitude of German doctors with that of German mechanical engineers—a comparison greatly in the favour of the latter Mechanical engineers are making great efforts to invent a really adequate artificial hand A prize of £2000 has been offered by the Association of German Engineers to the most successful inventor At a recent meeting of this very numerous association the president declared that he hoped any invention in this direction resulting from the labours of the members would benefit not only Germany and its allies but also their enemies These humane sentiments are in striking contrast with the spirit which has prompted the prohibition of the exportation of all medical publications This measure has been adopted in so rigorous a fashion that Swiss doctors can no longer obtain copies of books which have been published for them in Germany The idea underlying this prohibition is that the enemies of the Fatherland should not profit in the least degree from any progress that may be made in German surgery"

WELSH MEDICAL ORDERLIES —As the outcome of a conference of religious leaders in North Wales the War Office has given permission for the formation of a Royal Army Medical Corps unit consisting of 240 theological students, young clergymen, and ministers

KAISER'S CORFU PALACE AS SERBIAN HOSPITAL —It is stated that the British Government intends to take over the Achilleion, the Emperor William s Palace at Corfu as a hospital for wounded Serbians

Medical News

UNIVERSITY OF OXFORD —The degree of D M has been conferred upon H T Evans, Jesus College.

UNIVERSITY OF CAMBRIDGE —At examinations for Medical and Surgical Degrees held during Michaelmas term, 1915, the following candidates were successful —

FIRST EXAMINATION (OCTOBER 1915)

Part I Chemistry —G H Caiger Caius C B Clarke Catharine B H Cole B A H Selwyn G T Henderson Caius C A Horder and P W Putnam Emmanuel J Russell Christ s J L Strain Trinity and C H Whittle Queens

Part II, Physics —G F Abercrombie F H S Caiger and G H Caiger, Caius C B Clarke Catharine G T Henderson Caius C A Horder P B Kittel P W Putnam and W Smith, Emmanuel J V Sparks St John s J L Strain, Trinity and C H Whittle Queens

Part III Elementary Biology —F H S Caiger and G H Caiger Caius C B Clarke Catharine G T Henderson Caius F B Hobbs Sidney Sussex C A Horder and P W Putnam Emmanuel J V Sparks St. John s and S D Sturton Emmanuel

FIRST EXAMINATION (DECEMBER, 1915)

Part I Chemistry —G F Abercrombie and F H S Caiger Caius W R Carling Emmanuel H A. Crowther St John s N D Dunscombe Downing F R G Hief Sidney Sussex P B Kittel Emmanuel R J Lythgoe Trinity E Miller B A St John s D G Sharp Christ's S D Sturton Emmanuel W S R Thomas Queens and H B Yates Downing

Part II Physics —A. Barker, Christ s A. Carling Corpus Christi H A. Crowther St John s N D Dunscombe Downing G S W Evans Queens' F R G Hief and F B Hobbs Sidney Sussex R J Lythgoe, Trinity E Miller B A. St John s R Y Paton Trinity J Russell and D G Sharp Christ's S D Sturton Emmanuel W S R Thomas Queens A. D Whitelaw St John s and H B Yates Downing

Part III Elementary Biology —G F Abercrombie Caius A Barker Christ s W R Carling Emmanuel G S W Evans Queens F R G Hief Sidney Sussex P B Kittel Emmanuel R J Lythgoe Trinity E Miller St John s R Y Paton Trinity; A. D Porter Pembroke A. E Roche Magdalene J Russell and D G Sharp Christ s J L. Strain Trinity, W S R Thomas, Queens M H Webb-Peploe Trinity C H Whittle Queens A. W Wilson St John s and H B Yates Downing

SECOND EXAMINATION (OCTOBER 1915)

Part II Pharmacology and General Pathology —D C Beaumont B A Christ s W L. Berry Caius W T Beswick B A. Trinity Hall J M. Bickerton Pembroke W S Brown B A., Caius P A Buxton B A. and H Chadwick B.A. Trinity H Coral Pembroke T L Crawhall B A. Caius L Cunningham B A. and C D Day M A. Downing H S Evans B A., Trinity T Fernandez, B A. Catharine E A. Fiddian, B A. Emmanuel H D Gardner B A. Trinity S V Goldberg B A. Catherine; W N Goldschmidt B A. Pembroke F Gray and G A. Harrison Caius L. B Hartley B A. Kings H W H Holmes Christ s H B Jackson M A. Clare R B P Lansdown Pembroke J G Lawn, B A. Sidney Sussex P T Liang Caius G T Lipsbytz B A. Emmanuel E E Llewellyn B A. Christ s E I Lloyd B A Trinity N J Macdonald Pembroke J H E Moore E O Morrison B A. and H Morrison Caius A Orr Ewing B A Pembroke A. H Pearce B A. Clare A. V Pegge B A. Caius H F A. A. Prichard B A. Clare I M Rattray B A. Caius H F Rhodes B A. and S Riddlough B A. King's F N Sidebotham B A. Clare H G Taylor Trinity; D L. Tucker Caius E B. Verney Downing M D Vint, B.A. Christ s A T Westlake St. John s J Whittingdale Downing M Wong St John s and R. A. Woodhouse B A Downing

SECOND EXAMINATION (DECEMBER, 1915)

Part I Human Anatomy and Physiology —W F Attwater Pembroke H Barbash St. John s L H Bartram Trinity P F Bishop Clare E P Brockman, Caius H B Bullen B A., Clare W M Casper Caius S P Castell Christ s C B Cohen Trinity; B J Crisp Sidney Sussex; E C Curwen Caius; R W M. Dendy B A., Trinity C C R Downing Pembroke C H Gunasekara Clare A. C Halliwell, Caius G G Havers, B A. Downing A. T Hawley Caius W M Heald T L. Hillier and S C Ho B A. St John s J M Lawrie Trinity J R Mitchell B A Clare P M Neighbour Sidney Sussex B A. Olphert Caius, F P N Parsons Pembroke R H Reece and R. H O B Robinson Kings A. T Spoor B A. Emmanuel H F Squire Caius W S Sykes Emmanuel M S Thomson Downing J P Wells Pembroke D E Wijewardene B A Peterhouse R L. Williams St John s D W Winnicott and F O Wood B A. Jesus and J M McC Wright B A Pembroke

THIRD EXAMINATION (DECEMBER 1915)

Part I Surgery and Midwifery —G A Back B A. Caius S L Bhatia, B.A. Peterhouse H N Deakin B A. Trinity A N Drury B A Caius C Gardiner Hill B A. Pembroke S H M Johns B A. Clare R F Jones B A. St John s W N Leak B A Trinity W New B.A. Downing S H Prall B A. Emmanuel M K Robertson B A. Trinity H W Scott B A. Clare (Surgery only) and G E Spicer B A. N S Tirard and F B Young B A. Trinity

Part II —G A Back B A Caius A F Brown B A Christ s A N Drury B A Caius C Gardiner Hill B.A., Pembroke C H M Gimlette B A. Caius H W Hales B.A Pembroke R. F Jones B.A., St John s W N Leak B A Trinity P K Liang B A. Caius S R. Prall B.A. Emmanuel R. T Raine

B.A. H Selwyn J R. Rees, B A King's W H C Romanis B.A. Trinity J E Sharp B A and L W Shelley B.A. Caius F H Ver B.A. Clare and H G E. Williams, B.A. King's

UNIVERSITY OF SHEFFIELD —At examinations in the Faculty of Medicine held recently the following candidates were successful —

Third M B., Ch B Examination —Frederick G E. Hill Elizabeth E. Jenkins and Robert H Rae
Diploma in Public Health —Beatrice Garvie

CENTRAL MIDWIVES BOARD —A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Dec 16th, 1915 with Sir Francis H Champneys in the chair A letter addressed to the chairman from Mrs Gow, of Dean's Yard Westminster, urging the desirability of communicating with the London County Council asking that body not to delegate to the various borough councils its powers and duties under the Registration of Lying in Homes Act 1915, was considered. The Board deemed it necessary, in view of the power given to the London County Council by its General Powers Act, 1915, Part IV (Registration of Lying in Homes), to delegate its powers and duties to the various borough councils and the possibility of the County Council adopting such a course to reaffirm its resolution of July 22nd, 1915, which was as follows —

> That the Board strongly approves the view of the chairman expressed in his letter to Dr W H Hamer of July 16th 1915,

(i e., that the Act should be administered by the Council) A letter was considered from the county medical officer of health of Lancashire asking the opinion of the Board on a request made by one of the Lancashire non county boroughs that the borough health visitor should be allowed to call at houses in which a confinement has recently taken place and at which a certified midwife is in attendance with a view to supervising the midwife at work The Board directed that the county medical officer of health of Lancashire be informed that the Central Midwives Board is of opinion that, generally speaking, the inspector of midwives is the only person who ought to visit the house of a lying in patient during the attendance of the midwife, and that any visit paid to a lying in woman by any other person than the doctor or midwife must be made by the express permission of the patient A letter was considered from the clerk of the county council of Durham asking the opinion of the Board as to the signing of maternity benefit forms by a registered medical practitioner where the patient has been delivered by an uncertified woman The Board decided that the clerk of the county council of Durham be informed that in the opinion of the Board the case is one in which a representation should be made by the county council of Durham to the General Medical Council with a view to action being taken in the case and that he be asked whether the county council of Durham is willing to undertake such representation. A communication was received from the town clerk of Rotherham calling the attention of the Board to a case in which a registered medical practitioner had apparently been in the habit of signing maternity benefit forms in cases where the patient had been delivered on the previous day by an uncertified woman The Board decided that the town clerk of Rotherham be informed that in the opinion of the Board the case is one in which a representation should be made by the county borough of Rotherham to the General Medical Council with a view to action being taken in the case A letter was considered from the county medical officer of health of Gloucestershire asking the opinion of the Board as to the powers of a local supervising authority under Rule E 24 to make an inspection of the place of residence of a midwife when thought necessary The Board directed that the county medical officer of health of Gloucestershire be informed that under Rule E 24 the local supervising authority has authority to make an inspection of the midwife's residence to see if it is unsafe from a sanitary point of view for the confinements of women within it or for the confinements of others from the contamination of the midwife

Special meetings of the Board were held at Caxton House Westminster on Dec. 16th and 17th, 1915 with Sir Francis H Champneys in the chair A number of midwives were struck off the roll, the following charges amongst others having been brought forward The midwife being unable to take the pulse of her patients and being unable to make use of a clinical thermometer so as to comply with the requirements of Rule E 13, a patient suffering from an attack of faintness after the delivery and suffering from persistent headache and thirst and from serious symptoms of illness with a temperature of 102° F, the midwife did not at any time explain that the case was one in which the attendance of a registered medical practitioner was required, as prescribed by Rule E 19, she did not carry with her when attending patients the antiseptics required by Rule E 2, and did not keep her register of cases as required by Rule E 23 A child being stillborn and no registered medical practitioner having been in attendance at the time of birth, the midwife neglected to notify the local supervising authority thereof, as required by Rule E 21 (1) (c), medical aid having been sought in respect of the child she neglected to notify the local supervising authority thereof, as required by Rule E 21 (1) (a) The midwife neglecting to disinfect her hands and forearms at a confinement as required by Rule E 3, not being scrupulously clean in her person and house as required by Rule E 1, making false records of the temperature of patients The midwife did not before delivering the patient wash and swab her external parts in manner prescribed by Rule E 7, neglecting to cleanse the child's eyelids as soon as the head was born, as required by Rule E 15, and having administered a drug other than a simple aperient she neglected to note the occurrence in her register of cases as required by Rule E 18 A child suffering from inflammation of and discharge from, the eyes and continuing so to suffer on the date of the midwife's last visit, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, as prescribed by Rule E 20 (5), she discontinued her attendance at a time when the condition of the child was not satisfactory—viz., when it was suffering from discharge from the eyes—and advised the mother of the child to take steps to prevent the condition of the child from becoming known to the officials of the local supervising authority A midwife not taking with her to a confinement a bag or basket for her appliances furnished with a removable lining which can be disinfected, as required by Rule E 2

TOXIC JAUNDICE AS A NOTIFIABLE DISEASE — Last week we published an account of a fatal case of "dope" poisoning associated with jaundice Dr W E Lee stated there that the composition of the dope was acetate of cellulose or celluloid dissolved in tetrachlorethane with amyl alcohol and benzene. The Home Secretary has now issued an Order making cases of toxic jaundice occurring in a factory or workshop—' that is, jaundice due to tetrachlorethane or nitro- or amido- derivatives of benzene or other poisonous substance —notifiable under the Factory and Workshops Act The Order came into force on Jan 1st, 1916

UNIVERSITY OF EDINBURGH.—During the year just brought to a close the total number of matriculated students (including 487 women—59 under last year's number) was 1853 being 676 fewer than the total for 1914 and 1408 fewer than the number for 1913 Of these, 807 (including 11 women) were enrolled in the Faculty of Medicine (a decrease of 218). Of the students of medicine 382 or over 47 per cent, belonged to Scotland, 122, or over 15 per cent, were from England and Wales, 30 from Ireland, 80 from India, 193 or nearly 24 per cent, from British Colonies and Dependencies, and 26 from foreign countries The number of women attending extra-academical lectures with a view to graduation in medicine in the University was 138 (an increase of 44 on the number for 1914) The University roll of war service—embracing members of the staff graduates, and students past and present—which a year ago contained about 1700 names, has now reached a total of nearly 4000 to which should be added about 400 who are members of the Officers Training Corps The University authorities have renewed with modifications various concessions made last year to students on service, and a number of scholarships &c. which would in ordinary course, have been tenable or open for competition this session have been suspended. The following medical degrees were conferred during 1915 Bachelor of Medicine and Bachelor of Surgery (M B, Ch.B), 158, Doctor of Medicine (M D) 21. The total annual value of the University fellowships bursaries and prizes now amounts to about £20 305 of which the Faculty of Medicine claims £5365 Early in the year the vacancy occasioned by the retirement of Professor John Wyllie was filled by the appointment to the

85 grm albumin, 40 grm fat, and 475 grm. of carbohydrates, 2700 calories Prisoners employed get 10 per cent more, and those doing hard labour are paid for their work and can buy themselves extras The cost of the ration to the Government is 52 pfennigs (or 6½*d*) daily

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B H Cole B A. H Selwyn G T Henderson Caius C A.
Horder and P W Putnam Emmanuel J Russell Christ's; J L.
Strain Trinity and C H Whittle Queens

Part II Physics—G F Abercrombie F H S Caiger and G H
Caiger Caius C B Clarke Catharine G T Henderson, Caius
C A Horder P B Kittel P W Putnam and W Smith
Emmanuel J V Sparks St John's J L. Strain, Trinity and
C H Whittle Queens

Part III Elementary Biology—F H S Caiger and G H. Caiger
Caius C B Clarke Catharine G T Henderson Caius F B
Hobbs, Sidney Sussex C A Horder and P W Putnam
Emmanuel J V Sparks, St. John's and S D Sturton,
Emmanuel

First Examination (December 1915)

Part I Chemistry—G F Abercrombie and F H S Caiger Caius
W R Carling Emmanuel H. A. Crowther St John's N D
Dunscombe, Downing F R G Hief Sidney Sussex P B
Kittel, Emmanuel R J Lythgoe Trinity E Miller B A.
St John's D G Sharp Christ's S D Sturton Emmanuel
W S R Thomas Queens and H B Yates Downing

Part II Physics—A. Barker, Christ's A. Carling Corpus Christi
H A. Crowther St John's; N D Dunscombe Downing G S W
Evans Queens F R G Hief and F B Hobbs, Sidney Sussex
R J Lythgoe Trinity E Miller B A. St John's R Y Paton,
Trinity J Russell and D G Sharp Christ's S D Sturton
Emmanuel W S R. Thomas Queens; A. D Whitelaw St John's
and H B Yates Downing

Part III Elementary Biology—G F Abercrombie Caius A.
Barker Christ's W R Carling Emmanuel G S W Evans
Queens F R. G Hief Sidney Sussex P B Kittel Emmanuel
R J Lythgoe Trinity E Miller St John's R Y Paton Trinity
A. D Porter Pembroke A E Roche, Magdalene J Russell and
D G Sharp Christ's J L. Strain Trinity W S R Thomas
Queens M H Webb-Peploe Trinity C H Whittle Queens
A. W Wilson St. John's and H B Yates Downing

Second Examination (October, 1915)

Part II Pharmacology and General Pathology—D O Beaumont
B A Christ's W L. Berry Caius W T Beswick B A. Trinity
Hall J M Bickerton Pembroke W S Brown B.A. Caius P A
Buxton B A. and H Chadwick, B.A. Trinity H Coral Pem
broke T L Crawhall B A. Caius; L Cunningham B A. and
C D Day M.A. Downing H S Evans B A., Trinity, T
Fernandez, B A. Catharine E A. Fiddian, B A. Emmanuel H D
Gardner B.A. Trinity S Y Goldberg B A. Catharine W N
Goldschmidt B A. Pembroke F Gray and G A. Harrison Caius
L. B Hartley B A. King's H W H Holmes Christ's H B
Jackson M A Clare R B P Lansdown Pembroke J G Lawn
B.A. Sidney Sussex P T Liang Caius G T Lipshytz B A.
Emmanuel E E Llewellyn B A. Christ's F I Lloyd B A
Trinity N J Macdonald Pembroke J H E Moore E O
Morrison B A. and H Morrison Caius A Orr Ewing B A
Pembroke A. H Pearce B A Clare A V Pegge B A. Caius
A A. Prichard B A. Clare I M Rattray B A. Caius H E
Rhodes B A. and S Riddiough B A King's F N Sidebotham
B A. Clare H G Taylor Trinity D L. Tucker Caius R D
Verney Downing M D Vint, B.A. Christ's A. T Westlake
St. John's J Whittingdale Downing M Wong St John's and
R A. Woodhouse B A. Downing

Second Examination (December, 1915)

Part I, Human Anatomy and Physiology—W F Attwater Pem
broke H Barbash St John's L. H Bartram Trinity P F
Bishop Clare, E P Brockman Caius H B Bullen B A
Clare W M. Casper Caius S P Castell Christ's C B Cohen
Trinity B J Crisp Sidney Sussex E C Curwen Caius
R W M Dendy B A. Trinity C C R Downing Pembroke
C H Gunasekara Clare A. C Halliwell Caius G G Havers
B.A. Downing A T Hawley Caius W M Heald T L. Hillier
and S C Ho B A. St John's J M Lawrie Trinity J R
Mitchell B A Clare P M Neighbour Sidney Sussex R A.
Olphert Caius F P N Parsons Pembroke R H Reece and
R. H O B Robinson King's A. T Spoor B A Emmanuel H F
Squire Caius W S Sykes Emmanuel M S Thomson Downing
J P Wells Pembroke D E Wijewardene B A. Peterhouse
R L. Williams St John's D W Winnicott and F G Wood B A.
Jesus and J M McC Wright B A. Pembroke

Third Examination (December, 1915)

Part I Surgery and Midwifery—G A Back, B A Caius S L.
Bhatia, B A. Peterhouse B N Deakin B A. Trinity A N
Drury B A Caius C Gardiner Hill B A Pembroke S H M
Johns B A. Clare R F Jones B A. St John's W N Leak
B A Trinity W New B.A. Downing S R Prall B.A
Emmanuel M K Robertson B A. Trinity H W Scott, B A
Clare (Surgery only) and G E Spicer B A. N S Tirard and F H
Young B A. Trinity

Part II—G A Back, B A., Caius A E Brown, B A Christ's
A N Drury B A Caius C Gardiner-Hill, B.A. Pembroke
C H M Gimlette B A. Caius H W Hales B A Pembroke
R. F Jones B A., St. John's W N Leak B A Trinity F K
Liang B A Caius S R. Prall B.A. Emmanuel R. T Raine

B A, H Selwyn J R. Rees B A King's W H C Romanis B A. Trinity J E Sharp B A and L W Shelley B A. Caius F H Vey B.A. Clare and H G E Williams B.A. King's

University of Sheffield—At examinations in the Faculty of Medicine held recently the following candidates were successful —

Third M B Ch B Examination—Frederick G E Hill Elizabeth E Jenkins and Robert H Rae
Diploma in Public Health—Beatrice Garvie

Central Midwives Board—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Dec 16th 1915, with Sir Francis H Champneys in the chair A letter addressed to the chairman from Mrs Gow, of Dean's Yard Westminster, urging the desirability of communicating with the London County Council asking that body not to delegate to the various borough councils its powers and duties under the Registration of Lying in Homes Act, 1915, was considered The Board deemed it necessary, in view of the power given to the London County Council by its General Powers Act, 1915, Part IV (Registration of Lying in Homes), to delegate its powers and duties to the various borough councils and the possibility of the County Council adopting such a course to reaffirm its resolution of July 22nd, 1915, which was as follows —

> That the Board strongly approves the view of the chairman expressed in his letter to Dr W H Hamer of July 16th 1915

(i e, that the Act should be administered by the Council) A letter was considered from the county medical officer of health of Lancashire asking the opinion of the Board on a request made by one of the Lancashire non county boroughs that the borough health visitor should be allowed to call at houses in which a confinement has recently taken place and at which a certified midwife is in attendance with a view to supervising the midwife at work The Board directed that the county medical officer of health of Lancashire be informed that the Central Midwives Board is of opinion that, generally speaking, the inspector of midwives is the only person who ought to visit the house of a lying in patient during the attendance of the midwife, and that any visit paid to a lying in woman by any other person than the doctor or midwife must be made by the express permission of the patient A letter was considered from the clerk of the county council of Durham asking the opinion of the Board as to the signing of maternity benefit forms by a registered medical practitioner where the patient has been delivered by an uncertified woman The Board decided that the clerk of the county council of Durham be informed that in the opinion of the Board the case is one in which a representation should be made by the county council of Durham to the General Medical Council with a view to action being taken in the case, and that he be asked whether the county council of Durham is willing to undertake such representation A communication was received from the town clerk of Rotherham calling the attention of the Board to a case in which a registered medical practitioner had apparently been in the habit of signing maternity benefit forms in cases where the patient had been delivered on the previous day by an uncertified woman The Board decided that the town clerk of Rotherham be informed that in the opinion of the Board the case is one in which a representation should be made by the county borough of Rotherham to the General Medical Council with a view to action being taken in the case A letter was considered from the county medical officer of health of Gloucestershire asking the opinion of the Board as to the powers of a local supervising authority under Rule E 24 to make an inspection of the place of residence of a midwife when thought necessary The Board directed that the county medical officer of health of Gloucestershire be informed that under Rule E 24 the local supervising authority has authority to make an inspection of the midwife s residence to see if it is unsafe from a sanitary point of view for the confinements of women within it, or for the confinements of others, from the contamination of the midwife

Special meetings of the Board were held at Caxton House Westminster on Dec 16th and 17th, 1915 with Sir Francis H Champneys in the chair A number of midwives were struck off the roll, the following charges, amongst others having been brought forward The midwife being unable to take the pulse of her patients and being unable to make use of a clinical thermometer so as to comply with the requirements of Rule E 13, a patient suffering from an attack of faintness after the delivery and suffering from persistent headache and thirst and from serious symptoms of illness with a temperature of 102° F, the midwife did not at any time explain that the case was one in which the attendance of a registered medical practitioner was required, as prescribed by Rule E 19, she did not carry with her when attending patients the antiseptics required by Rule E 2, and did not keep her register of cases as required by Rule E 23 A child being stillborn and no registered medical practitioner having been in attendance at the time of birth, the midwife neglected to notify the local supervising authority thereof, as required by Rule E 21 (1) (c), medical aid having been sought in respect of the child she neglected to notify the local supervising authority thereof as required by Rule E 21 (1) (a) The midwife neglecting to disinfect her hands and forearms at a confinement as required by Rule E 3, not being scrupulously clean in her person and house, as required by Rule E 1, making false records of the temperature of patients The midwife did not before delivering the patient wash and swab her external parts in manner prescribed by Rule E 7, neglecting to cleanse the child's eyelids as soon as the head was born, as required by Rule E 15, and having administered a drug other than a simple aperient, she neglected to note the occurrence in her register of cases, as required by Rule E 18 A child suffering from inflammation of, and discharge from, the eyes and continuing so to suffer on the date of the midwife's last visit, she did not explain that the case was one in which the attendance of a registered medical practitioner was required as prescribed by Rule E 20 (5), she discontinued her attendance at a time when the condition of the child was not satisfactory—viz, when it was suffering from discharge from the eyes—and advised the mother of the child to take steps to prevent the condition of the child from becoming known to the officials of the local supervising authority A midwife not taking with her to a confinement a bag or basket for her appliances furnished with a removable lining which can be disinfected, as required by Rule E 2

Toxic Jaundice as a Notifiable Disease—Last week we published an account of a fatal case of "dope' poisoning associated with jaundice Dr W E Lee stated there that the composition of the dope was acetate of cellulose or celluloid dissolved in tetrachlorethane, with amyl alcohol and benzene The Home Secretary has now issued an Order making cases of toxic jaundice occurring in a factory or workshop—"that is, jaundice due to tetrachlorethane or nitro- or amido- derivatives of benzene or other poisonous substance'—notifiable under the Factory and Workshops Act The Order came into force on Jan 1st, 1916

University of Edinburgh—During the year just brought to a close the total number of matriculated students (including 487 women—59 under last year's number) was 1853 being 676 fewer than the total for 1914, and 1408 fewer than the number for 1913 Of these, 807 (including 11 women) were enrolled in the Faculty of Medicine (a decrease of 218) Of the students of medicine, 382, or over 47 per cent, belonged to Scotland, 122, or over 15 per cent, were from England and Wales, 30 from Ireland, 80 from India, 193 or nearly 24 per cent, from British Colonies and Dependencies, and 26 from foreign countries The number of women attending extra academical lectures with a view to graduation in medicine in the University was 138 (an increase of 44 on the number for 1914) The University roll of war service—embracing members of the staff, graduates, and students, past and present—which a year ago contained about 1700 names, has now reached a total of nearly 4000, to which should be added about 400 who are members of the Officers Training Corps The University authorities have renewed with modifications various concessions made last year to students on service, and a number of scholarships &c., which would, in ordinary course have been tenable or open for competition this session, have been suspended The following medical degrees were conferred during 1915 Bachelor of Medicine and Bachelor of Surgery (M B, Ch B), 156, Doctor of Medicine (M D), 21. The total annual value of the University fellowships bursaries and prizes now amounts to about £20 305, of which the Faculty of Medicine claims £5365 Early in the year the vacancy occasioned by the retirement of Professor John Wyllie was filled by the appointment to the chair of Medicine of Professor Lovell Gulland Dr A M Drennan, formerly Lecturer in Practical Pathology, has been appointed Professor of Pathology in the University of Otago, New Zealand. Bequests of the James Cropper Scholarship Fund and the Waldie Griffith Scholarship Fund, for the medical education of women in Edinburgh, have been handed over to be administered by the University authorities The balance of the funds left over on the winding up of the Scottish Association for the Medical Education of Women has been given to the University Court for the foundation of an annual prize for a woman student qualifying in medicine

DR ANDREW DUNLOP —By the death of Dr Andrew Dunlop, at the age of 73, which occurred at St Heliers on Dec 30th last, the profession in Jersey has lost its doyen Dr Dunlop had of late been in failing health, and had recently suffered from heart trouble, but he had continued actively at work almost to the last, and the end—from cardiac failure—came rather suddenly Dr Dunlop's professional career in Jersey began in 1868, and he soon acquired an extensive general practice He held several honorary positions and appointments in connexion with the Jersey General Dispensary and other institutions, to which he devoted much time and attention He was one of the original founders of the Jersey Medical Society and for some years its president His medical contributions were accurate and painstaking an article on Rupture of the Heart appearing in 1866 (*Edinburgh Medical Journal*) may be specially mentioned In addition he was an enthusiastic geologist, and a writer on the subject, contributing frequently to the Société Jersiaise Dr Dunlop leaves a widow, a married daughter and two sons, having lost two sons in the South African War and three sons in the present war

HEALTH OF BELFAST —It is satisfactory to note that while in 1914 the death rate from all causes was 18 8 per 1000, the same rate, based on the returns for the 50 weeks ending Dec 18th 1915 is announced as 17 7 In 1914 there were 51 notifications of typhus, with 12 deaths, not a case of this zymotic has been reported in 1915 The estimated number of scarlet fever notifications for 1915 is 1992, against 2317 in 1914 and the notifications of diphtheria have fallen from 281 to 171 Cerebro spinal fever cases on the other hand have advanced from 14 in 1914 to 64 in 1915 The following tabular comparison is interesting —

Deaths from—	Total in 1914	Estimated total in 1915
Zymotic disease in general	1170	691
Typhoid fever	26	9
Measles	205	167
Scarlet fever	170	105
Whooping cough	205	155
Diphtheria	31	28
Diarrhœa	357	245
Phthisis	836	819
Chest diseases (including phthisis)	2466	2439
Death rate per 1000 of population from zymotic disease	2 7	1 7
Total infantile death rate per 1000	143	136

With reference to scarlet fever, the medical officer of health of Belfast believes that it is the delay in the diagnosis and notification of the first case until two or more of the family have become infected which causes the epidemic to continue He is a believer in the utility of hospital treatment for scarlet fever, and thinks that if cases were nursed at home the epidemic would be even more prevalent than it is

Mr John Howard, a well-known Brighton philanthropist figures among the recipients of New Year's honours conferred by the King A knighthood has been bestowed upon him His generosity has been boundless in all sorts of charitable causes, the most recent being his gift of £30 000 for establishing 24 cottage homes for trained nurses incapacitated through ill health or advancing years These homes as already recorded in THE LANCET are to be a memorial to Nurse Cavell Other benefactions have been the founding of the Howard Charity which provides pensions varying from 2*s* 6*d* to 8*s* a week to scores of deserving people and the building and endowment of the Howard Convalescent Home at a cost of £40,000 This home has been occupied by convalescent military and naval men ever since it was opened in September, 1914, Sir John Howard having placed it at the disposal of Lord Kitchener free of charge

THE SS "PERSIA"—The names of a medical man and a medical woman appear in the list of those on board the ill fated *Persia*, and unfortunately not among the rescued Dr William Everett, who was travelling as ship's surgeon, and Dr Elizabeth Stephens Impey, who was on her way to Lahore to take charge of the Lady Dufferin Hospital for Women

THE LATE DR C H FOX —Charles Henry Fox, M D St And, F R C P Edin, M R C S, died at his residence in Edinburgh on Christmas Day, in his seventy ninth year He received his medical education at St George's Hospital and Edinburgh University graduating M D of St Andrews in 1861, after having taken the M R C S in 1859 In 1900 he was admitted F R C P Edin Dr Fox was formerly physician to the Brislington House Private Lunatic Asylum, owned by himself and his half brother, Dr Bonville Fox Retiring in 1894, he spent the remainder of his life in Edinburgh

COMPLETION OF THE WESTERN INFIRMARY, GLASGOW —At a meeting held on Dec 23rd, 1915 in connexion with the Glasgow Western Infirmary, the new buildings were formally opened The chairman, Sir Matthew Arthur, referred to the handsome donation of £16,000 from the Davis trustees, which had enabled the management to complete the building plan of the admission department, which was the groundwork of the scheme, and to the generous gift of their friend and fellow manager, Mr William Robertson, who had already supplied the large ward of the new wing at a cost of £8000 and had now given £3500 for the equipment of the new operating theatre In the course of the proceedings the managers made an urgent appeal for financial support of the work of the institution, Colonel Roxburgh pointing out that the only alternative to public generosity was State aid

Mr C Welch, a Somerset landowner, who recently died leaving an estate valued at £24,155, bequeathed the residue of his property to the University of Oxford with certain conditions, failing which the property reverted to six London hospitals, one being St George's Hospital, but, said the testator, "no hospital is to be chosen by the trustees where vivisection is disallowed or discountenanced, anti vivisectionists being enemies of the human race"

Appointments.

Successful applicants for vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward to THE LANCET *Office directed to the Sub Editor not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication*

DAVIES A. L M R C S L R C P Lond has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Bala District of the county of Merioneth

FIELD F A. M D Lond has been appointed Deputy Medical Officer of Health of the Failsworth Urban District Council

FULTON JANE M M B B S R U I has been appointed Assistant Medical Officer at the Barming Heath Lunatic Asylum Maidstone

GRAVES T C M B B S Lond has been appointed Medical Superintendent of the Hereford County and City Asylum

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon Salary £160 per annum with board and laundry

BOLINGBROKE HOSPITAL, Wandsworth Common S W —House Surgeon Salary £200 per annum with board and residence

BRISTOL ROYAL INFIRMARY —House Physicians and House Surgeons Salary at rate of £120 per annum with board apartments and laundry

BURY INFIRMARY —Senior House Surgeon Salary £200 per annum with board residence and washing Also Junior House Surgeon. Salary £150 per annum with board residence and washing

DERBY DERBYSHIRE ROYAL INFIRMARY —House Physician and Casualty Officer Salary £200 per annum with board residence &c.

GRAVESEND HOSPITAL.—House Surgeon Liberal salary with board, residence and washing

HEREFORD HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon unmarried for six months Salary £250 per annum with board residence and washing

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton —House Physician for six months Salary 30 guineas

KING S LYNN 2 2ND SOUTH MIDLAND MOUNTED BRIGADE FIELD AMBULANCE.—Medical Officers

LEEDS PUBLIC DISPENSARY —Female Resident Medical Officer Salary £130 per annum with board residence and laundry

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN Park place, Cheetham Hill road.—Female House Surgeon. Salary £120 per annum with apartments and board

MIDDLESBROUGH NORTH RIDING INFIRMARY —Female Resident Surgeon Salary £120 per annum with board apartments and laundry

NEW HOSPITAL FOR WOMEN Euston road N W —Female Pathologist. Salary £125 per annum

OLDHAM COUNTY BOROUGH —Assistant Schools Medical Officer Salary £325 per annum

OXFORD 3 2ND SOUTH MIDLAND MOUNTED BRIGADE FIELD AMBULANCE (T F) —Medical Officer

PLYMOUTH SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician. Salary £240 per annum, with board, residence and washing

READING ROYAL BERKSHIRE HOSPITAL.—House Surgeon for six months Salary as arranged

ST MARYLEBONE INFIRMARY St. Charles-square N Kensington.—Two Temporary Assistant Medical Officers

ST PANCRAS INFIRMARY London.—Senior Assistant Medical Superintendent of the South Infirmary Pancras road, N W and Senior Assistant Medical Officer of House adjacent. Salary at rate of £225 per annum with board apartments and washing

SHEFFIELD ROYAL INFIRMARY —Resident Surgical Officer Salary £140 per annum with board residence &c.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM PARALYSIS AND EPILEPSY 73 Welbeck street W —Clinical Assistants to Out patients

WIGAN ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY —Female House Surgeon. Salary £150 per annum, with board apartments and washing

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL. —Senior Student as Assistant House Surgeon. Salary as arranged with board rooms and laundry

WORCESTER COUNTY AND CITY ASYLUM Powick.—Junior Assistant Medical Officer Salary £250 per annum.

THE Chief Inspector of Factories Home Office London S W gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Baldock, in the county of Hertford

Births, Marriages, and Deaths.

BIRTHS

GRAY —On Dec. 26th 1915 at Alma House Exmouth the wife of Lieutenant Robin Gray R A.M.C of Stone House Chipping Sodbury of a daughter

NABARRO —On Dec 21 t 1915, at 117 Dartmouth road N W the wife (nee Florence Nora Webster) of David Nabarro M D Lond of a son

THWAITES —On Dec. 30th 1915 at St John s Park Blackheath, the wife of Captain H Thwaites R A.M.C., British Expeditionary Force, of a son

MARRIAGES

BOURKE—O CONNOR.—On Dec. 30th, 1915 at St Dominic s Church Haverstock hill N W Lieutenant Ulick J Bourke, R.A.M C to Agnes Mary daughter of the late J J O Connor and Mrs. O Connor

MASON—EASTMAN —On Jan 1st Arthur F Mason R.A.M C to Elsie Marion eldest daughter of Henry Eastman of Fernlea, Southampton

POWELL—COLE.—On Dec. 29th 1915, at Glencraig Church Craigavad, Ievan Herbert Powell B A. M B Dub B Ch T C.D., to Kathleen Harrietta Jacquetta elder daughter of Lieutenant T Willoughby Cole R A.M C (T)

DEATHS

DREW —On Dec 27th, 1915, at Montrose Battledown Cheltenham, peacefully after a long illness Joseph Drew M.B Lond M R.C S aged 89 years

DUNLOP —On Dec 30th 1915, at Belgrave House St. Hellier Jersey Andrew Dunlop M D Edin D P H Camb F G S aged 73 years

FAGGE.—On Jan 2nd at Effingham road, Lee Kent Frederick Thomas Fagge M R.C S., L.R C P Lond aged 76 years.

JOHNSON —On Nov 29th 1915 at Anzac, Major Frederick Miller Johnson A M C late of Melbourne Australia. M D Edin., C.M Lond grand nephew of the late Sir William Gull Bart.

MILLER.—On Dec 29th 1915 killed in action in France Albert Guy Miller Captain R A.M C aged 31 years.

ROBERTSON —On Jan 2nd Sir George Scott Robertson K C S I M.P

TANDY —On Dec 30th 1915 at the Red Cross Hospital Finsbury square Barre Latter Tandy L.R C S Irel L.R C P Edin. aged 70 years

THOMPSON —On Jan 1st in France Lieutenant W Frank Thompson R A.M C of the Leys School Cambridge and St Bartholomew s Hospital dearly loved elder son of Mr and Mrs W W Thompson of 3 The Avenue Brondesbury N W., aged 23 years

N B —A fee of [illegible] is charged for the Insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents

ELIMINATING THE TRAMP

IN these grim days of war much domestic legislation is put on one side, but the possibility of eliminating the tramp from the wayside does not seem to be out of the question if some figures just to hand can be taken as any criterion The success of the West Sussex vagrancy scheme is indeed remarkable It has now been in operation nine years and its three great principles are (1) Assistance for the genuine workman in search of employment (2) putting down the number of professional beggars and habitual vagrants and (3) the information of the general public, who are helped to see that there is no necessity for the indiscriminate giving of alms to wayfarers

In 1906, the year before the scheme was in operation, no fewer than 19,599 vagrants were relieved at the workhouses of eight unions in West Sussex in twelve months This huge figure appreciably declined when the vagrancy scheme operated and for the year 1915 was only 5817, or a decrease of 13,782 in nine years There has been a general decrease in the number of vagrants relieved throughout the United Kingdom but the West Sussex results have exceeded all expectations The cheapness of the system is not the least of its recommendations The cost of the food given to the vagrants relieved during the year just ended was only £33 16s 6d , a little more than usual owing to the Local Government Board adding to the dietary and to the increased cost of food. Even tramps of military age have been met with in West Sussex, and the attention of the Government authorities has been called to them in order that some steps may be taken to apply the National Registration to such men

TRACING PAPER

To the Editor of THE LANCET

SIR,—As medical men often use *tracing* paper for diagrams, charts, &c., they may like to know that in default of the usual tracing paper ordinary writing paper and scribbling paper may be quickly rendered transparent by pouring a small quantity of moderately viscid liquid paraffin B P on the paper and gently rubbing it in with the finger It is quickly absorbed and soon dries The drying may be accelerated by placing between blotting or other absorbent paper It bears ink and pencil marks well If it is desired to bring the transparent paper back to its pristine opaque condition it can be easily accomplished by placing it in a bottle with a little petrol and shaking it for two or three minutes The paraffin dries quicker than the castor oil which used to be employed for rendering paper negatives transparent for photographic reproduction

I am, Sir, yours faithfully,

Jan 4th, 1916 W F

"THE TEETHING FALLACY"

W M McD writes us at length on "The Influence of the Teething Fallacy as a Factor of Infantile Mortality and the Responsibility of the Medical Profession in the matter" He considers that the firm and unquestioned belief among the laity of all classes and among a great part of the medical profession that "baby must certainly be more or less ill whenever he is cutting a tooth" has led even among the best-intentioned mothers to an enormous amount of neglect of the first symptoms of illness in infants and that in this way thousands of infant lives are sacrificed to the fetish of teething In 19 years of general practice he has never come across any illness in an infant which could not satisfactorily be explained on other grounds than teething The subject is one of perennial interest and we deal with it in another column

BICENTENARY OF THE FIRM OF ALLEN AND HANBURYS LIMITED

ON Saturday Dec 18th 1915 the bicentenary of this firm was commemorated by the presentation of an oil portrait painting to Mr F J Hanbury, vice-chairman of the company and a cabinet of silver and a silver centre piece to Mr W R Dodd one of the directors In view of the serious times through which the nation is passing it was decided to make these presentations privately and the gathering was strictly confined to subscribers The celebration of the 200th anniversary of a great commercial business is a matter of national interest, and we offer our congratulations to this venerable and distinguished firm of British manufacturers

HEREDITY AS A FACTOR IN ALCOHOLIC DEGENERATION

THE Temperance Collegiate Association offers two prizes of 10 and 5 guineas respectively for the best essays on this subject sent in by Sept 30th next Conditions may be obtained from the Secretary of the Temperance Collegiate Association, Strathblane, Alexandra Park, Nottingham In this connexion the Science and Education Committee of the National Temperance League is willing to consider applications from university and hospital students in physics and medicine for financial assistance in carrying on research or in making investigations Applications should be addressed to the Secretary of the National Temperance League, Paternoster House, London, E C

HAZELL'S ANNUAL, 1916

THE war has no doubt seriously interfered with the compilation of annual books of reference but Hazell's appears betimes It is now in its thirty first year of issue, and under the editorship of Mr T A. Ingram, M A , LL D , maintains its reputation for giving the most recent and authoritative information concerning the British Empire, the nations of the world, and the important topics of the day The vast amount of information contained between the covers of this annual is indicated by the 10,000 entries of its excellent index Ample space is devoted to matters pertaining to the war, the communications from a naval officer forming a specially interesting chapter The new taxation and its effects receive considerable attention, and there are tables showing the rates of income tax payable on various incomes Messrs Hazell, Watson, and Viney, Limited, of 52, Long Acre, London, W C , are the publishers, and the price of the annual is 3s 6d

COCKENZIE FISHERMEN AND THE RED CROSS

ON the return of the Cockenzie fishing boats, after a successful fishing at Yarmouth, Colonel Caddell, V C , C B , made an appeal on behalf of the Red Cross to the fishermen who had been there As a result, £23 7s 6d have been subscribed by 56 of the fishermen of the nine crews engaged—a generous response considering that each boat has already subscribed between £3 and £4 to the Red Cross when at Yarmouth

TWO NURSING WAR DIARIES

MANY of the nurses at present in France send letters home to their friends, which are read with interest by their immediate circle The author of a "Diary of a Nursing Sister on the Western Front, 1914–1915" (William Blackwood and Sons Pp 300 Price 5s net) has been more ambitious in wishing to submit her daily jottings to a wider circle She discourses pleasantly enough of life on an ambulance train and with a field ambulance, and has an appropriate title for each section of her diary and a poem for each chapter Nurses who have more hum-drum duties at home may be glad to live the romance of war in these pages ——Miss Dorothy Cator writes more seriously of what she has learned "In a French Military Hospital" (Longmans, Green, and Co Pp 99 Price 2s 6d net), and the reader should be warned that the author has been "disappointed and disillusioned at every turn" She tells us that the French attitude to truth is, of course, different from the English one, and that any lie which helps to get through life gracefully is more than permissible if only it is told well enough not to be found out, that Frenchmen have much to learn from us in the way they treat their women, and so forth With a more sympathetic eye the author would have seen more, and more truly

BURBERRYS' SALE

Messrs Burberrys, of the Haymarket London, are holding their annual sale during the month of January, when in accordance with their custom, they will sell at half the usual prices all the stock remaining on their hands from the previous year The name of Burberrys, especially for weather proof clothes is well known amongst medical men, and some of our readers may be glad to replace a garment at a reduced cost Messrs Burberrys will send a catalogue on application

Recruit —1 Any previous overcrowding was local There were many localities undermanned 2 Many practitioners have been set free for the reasons given by our correspondent and to ascertain the number of men still available is one of the tasks now being worked at by the Central Medical War Committee 3 We think our correspondent might have received some credit for his previous experience

I P —We have had a favourable account of the institution

COMMUNICATIONS not noticed in our present issue will receive attention in our next

Medical Diary for the ensuing Week

SOCIETIES

HUNTERIAN SOCIETY, 1 Wimpole-street W

WEDNESDAY —9 P M Hunterian *Society Lecture* :—Mr T H Openshaw : Amputations, their Prevention and After-treatment.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London *Hospital Hammersmith road* W

FRIDAY —8 P M Special Clinical Evening

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST GRADUATE COLLEGE *West London Hospital*, Hammersmith road W

MONDAY —10 A.M., Dr Simson : Diseases of Women. 2 P M. Medical and Surgical Clinics X *Rays* Mr *Gray* : *Operations* Mr B Harman : Diseases of the Eye

TUESDAY —2 P M , Medical and Surgical Clinics. X Rays Mr Addison : *Operations Dr Banks Davis* : *Diseases* of the Throat , Nose, and Ear Dr Pernet : Diseases of the Skin

WEDNESDAY —10 A.M. Dr Saunders : Diseases of Children Dr Banks Davis : *Operations of the Throat, Nose and Ear 2 P M*. Medical and Surgical Clinics. X Rays Mr Pardoe : Operations Dr Simson : Diseases of Women

THURSDAY —2 P.M. Medical and Surgical Clinics X Rays Mr Gray : Operations Mr B Harman : Diseases of the Eye.

FRIDAY —10 A.M. Dr Simson : Gynæcological Operations 2 P M., *Medical and Surgical Clinics* X Rays Mr Addison : Operations Dr Banks Davis : Diseases of the Throat Nose, and Ear Dr Pernet : Diseases of the Skin

SATURDAY —10 A.M. Dr Saunders : Diseases of Children Dr Banks Davis : Operations of the Throat, Nose and Ear Mr B Harman : Eye Operations 2 P M , Medical and Surgical Clinics X Rays. Mr *Pardoe : Operations*

NORTH EAST LONDON POST GRADUATE COLLEGE Prince of Wales's General Hospital Tottenham, N

MONDAY —Clinics :—10.30 A.M Surgical Out patients (Mr E. Gillespie) 2.30 P M , *Medical Out patients (Dr T R Whipham)* : Gynæcological Out-patients (Dr Banister) 3 P M. Medical In patients (Dr R M Leslie)

TUESDAY —2 30 P.M Surgical Operations (*Mr Carson*) *Clinics* :—Medical Out patients (Dr A G Auld) ; Surgical Out patients (Mr Howell Evans) , Nose Throat and Ear Out-patients (Mr *C H Hayton*) *Radiography (Dr Metcalfe)* 3 30 P M. Medical In patients (Dr A J Whiting)

WEDNESDAY —Clinics :—2.30 P M Throat Operations (Mr C H *Hayton*) *Children Out-patients (Dr T R. Whipham)* ; Eye Out patients (Mr R P Brooks) Skin Out-patients (Dr H W Barber) 5.30 P M Eye Operations (Mr R P Brooks)

THURSDAY —2.30 P M , *Gynæcological Operations (Dr A. E Giles)* Clinics :—Medical Out-patients (Dr A. J Whiting) Surgical Out-patients (Mr Carson) Radiography (Dr Metcalfe) 3 P M Medical In patients (Dr R M Leslie)

FRIDAY —2.30 P M Surgical Operations (Mr Howell Evans) Clinics :—*Medical Out-patients (Dr A. G Auld)* ; *Surgical Out patients (Mr E Gillespie) Eye Out-patients (Mr R P Brooks)*

THE THROAT HOSPITAL, Golden square W

MONDAY —5 15 P M Special Demonstration of Selected Cases

THURSDAY —5 15 P M *Clinical Lecture*

For further particulars of the above Lectures &c see Advertisement Pages

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. *It is urgently necessary that attention should* be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE *AUTHOR AND IF POSSIBLE OF THE ARTICLE,* SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed 'To the Manager*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title-page to Vol. II. of 1915 were given in THE LANCET of Dec 25th, 1915

VOLUMES AND CASES

VOLUMES for the second half of the year 1915 will be ready shortly Bound in cloth, gilt lettered, price 16*s*, carriage extra.

Cases for binding the half-year s numbers are now ready Cloth gilt lettered, price 2*s*, by post 2*s* 4*d*

To be obtained on application to the Manager, accompanied by remittance

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(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, Jan 5th 1916

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks.
Dec. 30	29·770	S W	—	63	53	45	46	48	Cloudy
31	29·610	S W	—	55	53	46	49	52	Cloudy
Jan 1	29·620	S W	0·17	67	57	50	51	53	Raining
„ 2	30·050	S	0·19	56	55	47	49	50	Overcast
„ 3	30·040	S W	0·30	77	54	47	47	50	Cloudy
„ 4	30·120	S W	—	60	55	47	49	50	Overcast
„ 5	30·220	S W	0·20	56	50	45	44	46	Fine

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Investigations
ON
CLINICAL THERMOMETRY
CONTINUOUS AND QUASI-CONTINUOUS TEMPERATURE RECORDS IN MAN AND ANIMALS IN HEALTH AND DISEASE

By G SIMS WOODHEAD M A, M D LL D
PROFESSOR OF PATHOLOGY CAMBRIDGE
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PART I —THE CLINICAL THERMOMETER

In these days of routine temperature taking and recording it is difficult to realise that "Clinical Thermometry" was introduced no longer than 60, nay even 50, years ago Isolated and intermittent observations on the variations of the temperature of the human body in the course of disease had been made by thoughtful and scientific physicians especially those of the Edinburgh School—G Martine[1] G Cleghorn[2] J Currie[3] A. Arnott,[4] and others but no systematic clinical thermometry was attempted by the medical profession until Wunderlich's classical work was published, a work that could not have appeared had not Lord Kelvin in 1849 established his "Absolute Scale of Temperature" From 1857 to 1865 Wunderlich[5] taught with wonderful grasp and determination the value of the clinical thermometer, and with such success that a new era opened in medicine and surgery

Since that date the clinical thermometer has proved of such assistance to the physician and surgeon in diagnosis, treatment, and prognosis that several efforts, some successful, others less so, have from time to time been made to obtain not isolated but continuous records of temperature in health and disease Determining to supplement these efforts and to continue the investigations, we have for some time past been giving considerable attention to a study of the best method of obtaining, over prolonged periods continuous records of the temperature not only of human patients but of the lower animals The results of these investigations we now propose to give, first because they may be of interest to others, and, secondly, in order that those who become interested may take up the work, and, should they find it sufficiently productive, continue along the lines of our investigations Before doing this, however, we should like to give a short sketch, laying especial stress on British work of the advance of clinical thermometry

THE EARLY HISTORY OF CLINICAL THERMOMETRY

Hippocrates (460–370 B C) was well acquainted with the fact that during certain phases of disease the temperature of a patient may vary greatly, but it was not until a couple of thousand years had elapsed that the matter was deemed worthy of consideration by his successors

Sanctorius of Padua in his Commentary on the 1st book of the Canon of Avicenna (Venice, 1625) describes a thermometric apparatus, and though this is not quite clear from the text, assumes it as his own invention and manufacture, and to him certainly must be ascribed the idea of measuring degrees of heat by noting the expansion of matter as it is heated. He claims that with this apparatus he could determine the variations of temperature of the human body during the course of certain fevers † He was, however, so far ahead of his time that his work seems to have attracted little or no attention, and it was left to Boerhaave[6] a hundred years later, to maintain that "external febrile heat is recognised by the thermometer," and for van Swieten,[7] one of Boerhaave's pupils, to point out, in 1745, that the estimation of temperature by the hand is uncertain though he and his colleague, de Haen,[8] undoubtedly extended the practical application of thermometry in the study of disease

The method of using the thermometer adopted by the latter appears to have been somewhat crude and unsatisfactory, as he recounts that although he always kept the instrument (not a maximum thermometer) *in situ* for 7½ minutes, when he took a reading *he added one or two degrees Fahrenheit to*

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* [illegible] In De Sta[illegible] [illegible] In Ga[illegible] [illegible] 321

† Martine writes (Essays [illegible] p 177) "It is not our business at present to determine to whom we owe that noble and useful discovery whether to Sanctorio to Galileo to Father Paul or to Drebbel for I find it ascribed to all these by their respective favourers and admirers. [In a footnote he adds The invention is given to Drebbel by his countrymen Boerhaave (Chem I., 152, 156) and Musschenbroek (Tent. Exp. Acad. Cim Add. p 8 Ess de Phys. § 945) Fulgenzio (Life of Father Paul p.m. 156) ascribes it to his master Father Paul Sarpi, that great oracle of the republic of Venice. But there was an humour prevailed in those days of fathering almost all the curious discoveries of the age on that great statesman and virtuoso Vincenzio Viviani (Vit. de l'Galil. p. 67 See too Oper di Galil. Pref. p 47) speaks of Galileo as the inventor of thermometers But we know how much and how fondly he adored the memory of his great master (See Hist Acad. des Scien 1705, pp 159 175 176 193) Still, all these are posthumous claims and they too imputed by others But Sanctorio himself (Com. in Galen. Art. Med. pp. 736, 842, Com. in Avicen Can. Fen. I pp 22, 78, 219) expressly assumes the invention in question And Borelli (de Mot Animal II Prop 175) and Malpighi (Oper Posth. p 30) ascribe it to him without reserve And these Florentine academicians are not to be suspected of partiality in favour of one of the Patavinian School]

At first as is the fate of all other inventions thermometers were but rude and imperfect machines, and not easily to be applied to so many purposes as came afterwards to be in use They were very clumsy and as the various degrees of heat were pointed by the different contraction or expansion of air they came afterwards to be found uncertain and sometimes to be deceiving measures of heat as the bulk of air was affected not only by the difference of heat but likewise by the difference of weight of the atmosphere."

Drebbel (1572–163[illegible]) is regarded as the inventor of the air thermometer Galileo (15[illegible]–1642) of the spirit thermometer (the Florentine thermometer) and Reaumur (O'e Römer) (15[illegible]–1710) of the mercurial thermometer (Jnl. Amer Med. Ass 1912, p 1473)

Sir Isaac Newton used linseed (lintseed) oil—"A homogeneous fluid enough and capable of a considerable rarefaction and not having been observed to freeze even in very great colds and able to bear a great heat without boiling" Martine from whose work the above is a quotation also says (p 196) "The great Sir Isaac Newton thought the settling the degrees of Heat and Cold well worth his notice and as he carried everything he meddled with beyond what anybody had done before him and generally with a greater than ordinary exactness and precision so he laid down a method of adjusting thermometers in a more definite way than had been done hitherto" This linseed oil was placed in a glass tube

Wilks (Brit. Med Jour., Oct. 2[illegible]th 19[illegible] p 121[illegible]) gives an interesting account of a scale described in a paper attributed to Sir Isaac Newton but definitely stated to be by him by Martine (op. cit., p 195) ("Scala graduum caloris" Phil. Trans., London 1701, vol xx p 824, April, 1701) in which the temperature of the human body is calculated as coming at a definite point between the temperature of thawing snow and the heat of water boiling strongly "Supposing the bulb when immersed in thawing snow to contain 10,000 parts, he found the oil expanded by the heat of the human body so as to take up 1 3[illegible]th more space or 10,256 such parts and by the heat of water boiling strongly 10,725 and by the heat of melting tin 11,516 beyond which he did not carry his Oil Thermometer So that reckoning the freezing point as a common limit between heat and cold, he began his scale here making it gr 0 and the heat of the human body he made gr 12 and consequently the heat of boiling water was expressed by gr 34 $= \frac{725 \times 12}{256}$ and melting tin by gr 71" (Martine p 1[illegible])

Fahrenheit assumed that the temperature of the human body his fixed starting point, from which he worked upwards and downwards [illegible] He took the temperature of a mixture of ice and salt as his zero point and counting the body temperature 12 he found that the freezing point of water on his scale was 8 and that boiling point of water 53 In order to lengthen his scale he multiplied all the above figures by 4 and obtained the figures 0, 32, 9[illegible] and 212. W[illegible] who quotes from the Encyclo[illegible] [illegible] says that he wishes [illegible] and that he does [illegible] [illegible] the thought

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Investigations
of
CLINICAL THERMOMETRY

CONTINUOUS AND QUASI-CONTINUOUS TEMPERATURE RECORDS IN MAN AND ANIMALS IN HEALTH AND DISEASE

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PART I —THE CLINICAL THERMOMETER

In these days of routine temperature taking and recording it is difficult to realise that "Clinical Thermometry' was introduced no longer than 60, nay even 50, years ago Isolated and intermittent observations on the variations of the temperature of the human body in the course of disease had been made by thoughtful and scientific physicians especially those of the Edinburgh School—G Martine[1] G Cleghorn[2] J Currie[3] A. Arnott,[4] and others, but no systematic clinical thermometry was attempted by the medical profession until Wunderlich's classical work was published, a work that could not have appeared had not Lord Kelvin in 1849 established his "Absolute Scale of Temperature' From 1857 to 1865 Wunderlich[5] taught with wonderful grasp and determination the value of the clinical thermometer, and with such success that a new era opened in medicine and surgery

Since that date the clinical thermometer has proved of such assistance to the physician and surgeon in diagnosis, treatment, and prognosis that several efforts, some successful, others less so have from time to time been made to obtain not isolated but continuous records of temperature in health and disease Determining to supplement these efforts and to continue the investigations, we have for some time past been giving considerable attention to a study of the best method of obtaining over prolonged periods continuous records of the temperature not only of human patients but of the lower animals The results of these investigations we now propose to give, first because they may be of interest to others, and, secondly, in order that those who become interested may take up the work and, should they find it sufficiently productive continue along the lines of our investigations Before doing this, however, we should like to give a short sketch, laying especial stress on British work, of the advance of clinical thermometry

The Early History of Clinical Thermometry

Hippocrates (460–370 B C) was well acquainted with the fact that during certain phases of disease the temperature of a patient may vary greatly, but it was not until a couple of thousand years had elapsed that the matter was deemed worthy of consideration by his successors

Sanctorius of Padua,[6] in his Commentary on the first book of the Canon of Avicenna (Venice, 1625) describes a thermometric apparatus, and though this is not quite clear from the text, assumes it as his own invention and manufacture, and to him certainly must be ascribed the idea of measuring degrees of heat by noting the expansion of matter as it is heated. He claims that with this apparatus he could determine the variations of temperature of the human body during the course of certain fevers † He was, however, so far ahead of his time that his work seems to have attracted little or no attention, and it was left to Boerhaave[7] a hundred years later, to maintain that "external febrile heat is recognised by the thermometer,' and for van Swieten,[8] one of Boerhaave's pupils, to point out, in 1745, that the estimation of temperature by the hand is uncertain though he and his colleague, de Haen,[9] undoubtedly extended the practical application of thermometry in the study of disease

The method of using the thermometer adopted by the latter appears to have been somewhat crude and unsatisfactory, as he recounts that although he always kept the instrument (not a maximum thermometer) *in situ* for 7½ minutes when he took a reading *he added one or two degrees Fahrenheit to*

[illegible] De Sa[illegible] [illegible] Ga[illegible] No 4221.

† Martine writes (Essays, 17[illegible] p 177) "It is not our business at present to determine to whom we owe that noble and useful discovery whether to Sanctorio to Galileo to Father Paul or to Drebbel for I find it ascribed to all these by their respective favourers and admirers [In a footnote he adds "The invention is given to Drebbel by his countrymen Boerhaave (Chem I 152, 156) and Musschenbroek (Tent Exp Acad. Cim Add. p 8, Ess de Phys § 9[illegible]). Fulgenzio (Life of Father Paul p.m. 158) ascribes it to his master Father Paul Sarpi, that great oracle of the republic of Venice But there was an humour prevailed in those days of fathering almost all the curious discoveries of the age on that great statesman and virtuoso Vincenzio Viviani (Vit. de l Galil. p. 67 See too Oper di Galil. Pref. p [illegible]7) speaks of Galileo as the inventor of thermometers But we know how much and how fondly he adored the memory of his great master (See Hist Acad. des Scien 1708, pp 1[illegible] 175 1[illegible]) Still all these are posthumous claims and they too imputed by others. But Sanctorio himself (Com. in Galen. Art. Med. pp. 736, 8[illegible]2 Com. in Avicen Can. Fen. I pp 22, 7[illegible], 219) expressly assumes the invention in question. And Borelli (de Mot. Animal II Prop 175) and Malpighi (Oper Posth p 30) ascribe it to him without reserve And these Florentine academicians are not to be suspected of partiality in favour of one of the Patavinian School."]

At first as is the fate of all other inventions, thermometers were but rude and imperfect machines and not easily to be applied to so many purposes as came afterwards to be in use They were very clumsy and as the various degrees of heat were pointed by the different contraction or expansion of air they came afterwards to be found uncertain and sometimes to be deceiving measures of heat as the bulk of air was affected not only by the difference of heat, but likewise by the difference of weight of the atmosphere."

Drebbel (1572-163[illegible]) is regarded as the inventor of the air thermometer Galileo (15[illegible]–16[illegible]2) of the spirit thermometer (the Florentine thermometer) and Réaumur (Ole Römer) (16[illegible]–1710) of the mercurial thermometer (Jnl. Amer Med. Ass. 1912, p 1[illegible]75)

Sir Isaac Newton used linseed (lintseed) oil—"A homogeneous fluid enough and capable of a considerable rarefaction and not having been observed to freeze even in very great colds and able to bear a great heat without boiling" Martine from whose work the above is a quotation, also says (p. 195) "The great Sir Isaac Newton thought the settling the degrees of Heat and Cold well worth his notice and as he carried everything he meddled with beyond what anybody had done before him and generally with a greater than ordinary exactness and precision so he laid down a method of adjusting thermometers in a more definite way than had been done hitherto" This linseed oil was placed in a glass tube.

Wilks (Brit. Med. Jour., Oct. 2[illegible]th 190[illegible] p 1212) gives an interesting account of a scale described in a paper attributed to Sir Isaac Newton but definitely stated to be by him by Martine (op. cit., p 195) ("Scala graduum caloris" Phil. Trans., London 1701 vol. xx., p 82 April 1701) in which the temperature of the human body is calculated as coming at a definite point between the temperature of thawing snow and the heat of water boiling strongly "Supposing the bulb when immersed in [illegible] snow to contain 10000 parts, he found the oil expanded by the heat of the human body, so as to take up 1[illegible]th more space or 10 256 such parts and by the heat of water [illegible] strongly 10725 and by the heat of [illegible] 11,5[illegible] beyond which he did not carry his Oil Thermometer So that reckoning the *freezing* point as a common limit between heat and cold, he began his scale here making it gr 0 and the heat of the [illegible] he made gr 12 and consequently the heat of [illegible] was expressed by gr 34 = $\frac{725 \times 12}{256}$ and [illegible] by gr 71" (Martine p 195)

Fahrenheit also made the temperature of the human body his fixed starting point, from which he worked upwards and downwards but he took the temperature of a mixture of ice and salt as his zero point and counting the body temperature 12 he found that the freezing point of water on his scale was 8 and the boiling point of water [illegible] In order to lengthen his scale he multiplied all the above figures by [illegible] and obtained the figures 0, 32, [illegible] and [illegible]. Wilks who quotes from the Encyclopaedia Britannica, says that he wishes to accept this and that he does not think that [illegible] to the [illegible] *the temperatures registered "because he found the mercury would rise as much if left longer"* De Haen, however, appreciated the importance of a normal standard, and made a number of observations on the temperature of healthy people at various ages, comparing his results with those he obtained in the sick room The morning remission and evening exacerbation of temperature in fevers were well known to him He used variations of temperature as aids to the control and direction of his therapeutics, and regarded the return of the temperature to normal as a proof of convalescence

A few years earlier, however, George Martine,[1] trained partly in Edinburgh University but a graduate of the University of Leyden, dating from St Andrews, August, 1738, had published the first accurate observations on the temperature of healthy man and animals His "Essays and Observations" are considered by Garrison[10] to be the only scientific treatment of the subject that we have, earlier than that given to it by Wunderlich, and he it was who appears to have stimulated Haller's follower, Marcard[11] to the observations in his dissertation which appeared in 1741, and to have encouraged Pickel[12] to record his experiments on the influence of bathing in rivers on the body temperature which were published in 1778

Position in Latter Half of Eighteenth Century

Cleghorn[2] and Lining (a description of the American Yellow Fever, letter to Whyte published in Edinburgh, May 7th, 1754) both refer to their observations of the corporal temperature, the former in pneumonia as early as 1745, when he describes "an intense heat over the whole body which raises the mercury in the thermometer to the 103rd or 104th degree, and in pleurisy, in which he states that the external heat of the body was in several very moderate, in some less than natural, but for the most part it was so intense as to raise the mercury in Fahrenheit's thermometer to the 102nd degree, and often in the afternoon to the 104th (p 244), the latter in yellow fever before December, 1753

In 1775 Blagden,[13] writing in the Philosophical Transactions, published a series of observations and experiments as the outcome of which he was able to insist upon the remarkable power of accommodation for changes of temperature possessed by warm blooded animals, and the maintenance of normal temperature in healthy men in rooms heated to the boiling point of water These experiments by Blagden led John Hunter[14] to publish his experiments, begun in 1766, by which he proved that animals are able to resist external cold because they produce in themselves heat enough to counterbalance all loss Hunter also noted in his "Treatise on the Blood, &c," in 1793 (p 338 of reprinted works) that local inflammation produces a rise in temperature at the inflamed spot, and he held most tenaciously that body heat is not produced by the circulation of the blood

> It is very evident [he says] that warmth depends on a different principle which is intimately connected with life itself and is a power which maintains and regulates the machine independent alike of the circulation, the will and of sensation

In the Philosophical Transactions for 1778 he writes —

> In the course of a variety of experiments on animals and vegetables I have frequently observed that the result of experiments in the one has explained the œconomy of the other and pointed out some principle common to both, I have therefore, collected some experiments which relate to the heat and cold of those substances Having found variations in the degree of heat and cold in the same experiment, for which I could not account, I suspected that this might arise from some imperfections in the construction of the thermometer I mentioned to Mr Ramsden my objections to the common construction of that instrument, and my idea of one more perfect in its nature, and better adapted to the experiments in which I was engaged He accordingly made me some very small thermometers, six or seven inches long not above two-twelfths of an inch thick in the stem, having the external diameter of the ball very little larger than that of the stem, on which was marked the freezing point The stem was embraced by a small ivory scale, so as to slide upon it easily and retain any position. Upon the hollow surface of this scale were marked the degrees which were seen through the stem. By these means the size of the thermometer was very much reduced, and it could be applied to soft bodies with much more ease and certainty, and in many cases in which the former ones could not be conveniently applied. I therefore repeated with it such of my former experiments as were not originally satisfactory, and found the degrees of heat very different, not only from what I generally imagined but also from what I had found by my former experiments with thermometers of the common construction

Lavoisier and Laplace[15] (the celebrated astronomer), 1780, investigating the cause of animal heat, ascribed it to the chemical combination of oxygen with hydrogen and carbon in respiration.

In 1797 James Currie,[8] of Liverpool, trained in Edinburgh but a graduate in medicine of Glasgow University, in applying water, both cold and warm, as a remedy for fever and other diseases, made great use of thermometric methods, upon which he depended greatly for indications as to the results of his treatment He tested the action of warm and cold baths, of digitalis, opium and alcohol, and of restricted diet in the production of alterations of temperature[‡] So great was the value placed by him upon temperature observation as an aid to diagnosis and treatment that he was looked askance at by the rest of the profession, and this part of his work was commented on by his German translator as affording a glaring instance of the miserably backward state of medicine in England (Wunderlich[5]) As indicating the value of contemporary criticism, Weir Mitchell[16] finds "absolute genius" in Currie's book (Garrison,[10] p 288)

Clinical Thermometry in Early Part of Nineteenth Century

Elisha North[17] who recommended the use of the thermometer in spotted fever, Sir Benjamin Brodie,[18] who observed, in a case in which there was laceration of the lower part of the cervical portion of the spinal cord, that when the ball of the thermometer was placed between the scrotum and the thigh the quicksilver rose to 111° F, and that immediately after death the temperature was determined in the same manner and was found to be still the same, Dalton,[19] John Davy,[20] both of these latter opposing Brodie on his theory as to the influence of the nervous system on animal heat, Gentil,[21] Thomson,[22] and Sir Everard Home,[23] who, we are not astonished to find, obtained records of some remarkably high temperatures, 118° F in one instance, all studied clinical thermometry *at the* beginning of the nineteenth century, but it was left, in the early years of the renaissance of science, 1835 and onwards, to Becquerel and Breschet[24] and their followers to bring forward series of observations made with exceedingly sensitive thermometric apparatus on the variations of temperature in different parts of the bodies of animals It was noted that inflamed parts had a higher temperature than that recorded for the rest of the body No attempt was made, however, to register these temperatures or to obtain any continuous or automatic records In 1836 Berger[25] made a study of the temperatures of various species of animals

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[‡] Currie writes in vol I p 11: "The pulse varied from 130 strokes in the minute to 160 the heat rose in one case to 10[illegible]° of Fahrenheit but was in general from 101° to 103° towards the latter stage [illegible] the disease it was scarcely above the temperature of health [illegible] p 24 On the 18th at noon his pulse was 95 and soft; his [illegible] moist but a little above the natural heat His tongue was a [illegible] furred and his head ached he also complained of thirst the [illegible] at the axilla was 100° " &c And so throughout a number of his [illegible] of cases In vol II p 65 Dr Gregory writing to Currie [illegible] cases of scarlatina said "I did not take time to measure the [illegible] of his skin by the thermometer but I think it must have been at least 104° of Fahrenheit "

[§] Dr John Davy in "Physiological Researches" gives the fluctuations of temperature within the limits of health in tempera[illegible] (England) as highest in the morning between 7 and 8 [illegible] in the afternoon from 3 to [illegible] and 97·[illegible] at midnight He also [illegible] that it fluctuates till nightfall and is lowest about midnight [illegible] average difference of about 0 82°

The use of the thermometer in medical practice was, however, still regarded with suspicion, though individuals, Bouillaud,[26] Donne,[27] Piorry,[28] Wistinghausen,[29] Friedrich Hermann and D Nasse,[30] in addition to those already mentioned, claimed the thermometer as an instrument to be used in connexion with clinical investigation and treatment During the whole of the first four decades of the nineteenth century, however, the observations made on the temperature of the human body under varying conditions were but scanty, and as Hermann Nasse, in 1839,[31] puts it "For some years past the science of thermometry has been more neglected than formerly and indeed, remains almost *in statu quo* (quoted by Wunderlich)

In the *Medical and Physical Journal* (London, 1800, vol iii, p 304) a short descriptive notice is given of a portable thermometer (price 18s, provided by Messrs. Allen and Howard, chemists, in Plough-court, Lombard street, E C) designed to ascertain the heat of the human body The instrument, enclosed in a *cylindrical case, was about 5 inches* long and ¼ inch in diameter The scale (about 80° to 112°) was attached to the tube This instrument was so sensitive that the temperature was indicated in less than 10 seconds and might be read to a quarter of a degree

In its early history clinical thermometry was very closely linked up with hydropathy Dr Henry Willson[1] draws attention to an article in a "Report of the Society for Bettering the Condition of the Poor 1808 This article, entitled "Cases of Typhus Fever in which the Affusion of Cold Water has been Applied in the London House of Recovery, is by Dr W P Dimsdale, and contains interesting records of thermometry in connexion with this fever—'a thermometer placed under the tongue arose to 104°'

Dr Lloyd Jones[2] unearthed a most interesting note from 'Notes on a Diary kept *chiefly* in Southern India, 1881–6 by the Right Hon Sir Mountstuart E Grant Duff G C S I (vol ii p 208), in which a communication from Dr Birdie is quoted to the following effect —

> I also send a copy of the Report of the Committee on the Epidemic Fever in the Southern Provinces which prevailed 1809 11 Your Excellency will be pleased to notice at the top of p 52 [of the report] that the Committee used the thermometer as a clinical instrument long before its use as such was revived in Europe (*sic*) Curious to say that lunatic Tippu Sultan has some inkling of the use of the thermometer in disease as according to Wilks he wrote and asked Cossigny the Governor of Pondicherry, for an instrument of this kind which when the sick man places his hand on it the ascent of the quicksilver will mark the height of the disease

It is interesting to note that Archibald Arnott, an Edinburgh graduate (1815), Surgeon 20th Regiment, who was probably acquainted with Currie's treatise first published in 1797, makes the following *observation* whilst in attendance on Napoleon at St Helena.[32] On April 1st, 1821, *Arnott* first visited Napoleon and "as a result of the examination he could discover no tension or hardness of the abdomen, the pulse was tranquil and the heat moderate"[33] On April 3rd "he passed a tolerably tranquil night and slept a good deal, his pulse was 76, heat 96, skin more moist than natural, &c"[*]

PROGRESS IN MEDICAL THERMOMETRY FROM 1840

From the year 1840 a distinct advance in medical thermometry may be dated, and facts relating to temperature both in health and disease now began to accumulate and to be considered not as isolated observations but as having real clinical significance In this year Arnold[34] gives a very complete account of his investigations in thermometry in health and *disease in* his "Practical Treatise on Bilious Remittent Fever"

> "Preliminary experiments on the temperature of the system were instituted for the purpose of ascertaining the exact temperature of every class of residents in the island in a state of health, and under the various circumstances which are mentioned" (preface) To ascertain the normal temperature the experiments were made "upon every denomination of subject at different periods of the year, at different times of the day and under a great variety *of circumstances" and the author found that* '*the mean of* the whole series comprising 107 subjects of all denominations ages and sexes is 98 19 3/12th, which may be considered a correct estimate of the temperature of the system in health and as enjoyed in a climate like Jamaica" He took the temperature under the tongue and in the axilla, and notes 'there are generally one or two degrees of heat between the experiments under the tongue and in the axilla which was always found the lowest'
>
> *He then discusses the importance of temperature in the* febrile diseases 'for I have considered this symptom to be one of the most formidable with which we have to combat in the treatment of the bilious remittent fever, no matter where we may meet it, believing as I do that the system when labouring under this disease must inevitably give way to the cause which produces even a few degrees of thermal exaltation beyond 105° of Fahrenheit s scale and that all our remedies will have little effect if we find it 110° during the first or second stages I believe there is no study more calculated to improve the healing art or to throw more light on the nature of febrile diseases than a minute attention to the state of the temperature of the system'

In 1841 Andral[35] and, following him, Gierse,[36] plotted out a series of charts which they used in following the rise and fall of temperature as aids to the diagnosis and progress of disease Moreover they following Martine, took the precaution to obtain control charts of the temperature of normal individuals showing any rise or fall at various periods of the day and to compare these variations of temperature with those observed and noted in disease Then Hallmann,[37] Henri Roger, and, a little later, Demarquay[39] and Zimmermann,[40] obtained and studied numerous records of temperature from cases of typhus and typhoid fevers small pox, measles, erysipelas, whooping cough, tuberculosis, and pneumonia "as offering a simple basis for other observations free from all theoretical propositions Dr John Davy's observations[41] on temperature of healthy persons were most valuable, at a later date these were very fully discussed by Ogle[42]

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[*] See Sir Wm H Broadbent Brit Med Jour 1903 vol. i p 813.

To Bärensprung[43] and Traube[43] belongs the distinction of placing medical thermometry on a more sound footing, of coördinating and interpreting what had hitherto been put forward in isolated, imperfect, or framentary form, and of raising clinical thermometry "to the dignity of a comprehensive, well constructed, and, in many respects, complete doctrine" (Wunderlich) They demonstrated most clearly that in the thermometer the physician and surgeon had a means of deciding what, in those days, without our modern aids to diagnosis, were difficult and greatly debated questions in their art In this connexion Gamgee quotes Liebermeister[43a] as making important contributions on heat production and regulation in the warm blooded animals, at the same time making very appreciative reference to Jürgensen which we shall consider later

Dr David Livingstone[44] used the thermometer in South Africa at a very early date, for we find in his "Missionary Travels in South Africa" the following "The heat in the axilla, over the heart, and region of the stomach was, in my case, 100°, but along the spine and at the nape of the neck 103°" (p 194) The observations were made in 1853 and published in 1857, and it is of interest to note that he was convinced that the temperature of Africans was 2° F less than his own (p 509) "The bulb held under my tongue stood at 100°, under that of the native 98°" This, along with the numerous references to thermometry made by Edinburgh men, affords strong proof that clinical thermometry was taught and practised in the Scottish schools some years before it was systematically practised south of the Tweed Dr Warburton Begbie, for example, a physician in the Edinburgh Royal Infirmary, acquired his first clinical thermometer in 1857 and induced his pupil, Dr Brydon,[45] to make a prolonged series of observations with that instrument (similiar to that employed by Wilks) regarding typhus and typhoid fever

ADVANCE IN THERMOMETRY AS A ROUTINE CLINICAL PRACTICE

It is, however, to Carl Wunderlich and his classical work on temperature and disease that we owe the great advance in thermometry as a routine clinical practice that took place soon after the middle of the nineteenth century He accumulated an enormous mass of careful observations on temperature in disease, and, tabulating his results and studying them carefully, systematic thermometry in his hands became a recognised factor in clinical diagnosis, and important contributions to our knowledge of fever and other pathological conditions in which variations in temperature are involved were brought into great prominence

Wunderlich held that the normal temperature of healthy individuals is well nigh invariable

> A healthy man, whether fasting or digesting drinking water or stimulating fluids, employing mind or body or in a state of listlessness always retains his temperature [within half a degree] unless his health becomes disturbed In sleep the temperature of a healthy man is somewhat lower, but even then does not sink below 97 25° F

Wunderlich, however had foreseen the importance of a continuous 24 hour record, for we find that he insists that the temperatures met with in various diseases do not remain stable and unaltered during the 24 hours Fluctuations are observed these fluctuations being "in part dependent upon general rules, and in part determined by the nature, stage, and degree of the disease, or upon the increase or diminution of this"

It is now recognised that as regards the first of these statements we must accept as normal a much wider diurnal variation than was laid down by Wunderlich and those who followed him and copied his figures, whilst as regards the first point we are inclined, as the result of our experiments, to maintain that the exaggerated temperature variations induced by outside agencies are of prime importance, especially in the diagnosis of such diseases as tuberculosis, latent typhoid or pneumonia, and similar conditions "The uninterruptedly regular observation of the progress of the temperature throughout the whole course of the disease furnishes the most important indications for the judgment of febrile affections"

The influence of Wunderlich's work was felt almost immediately, paper after paper appeared in quick succession and of the medical journals the *Medical Times and Gazette* became the special channel of distribution of thermometric lore

It is, however, to Aitken's[46] advocacy of Wunderlich's work and to Allbutt's introduction of the clinical thermometer in its present form that we owe the rapid extension of clinical thermometry In the third edition of his "Practice of Medicine" Aitken gives a very complete account of Wunderlich's investigations, and in precise and succinct form defines for the practitioner some of the more important factors in thermometry He quotes Valentin (third edition, p 39) to the effect that all warm blooded animals surrounded by an atmosphere of 50° F have a temperature of about 99 5° in the back of the mouth, the rectum or other accessible *internal parts*, and at *completely sheltered parts of the surface* it is a degree lower—namely, 98 4° or 98 5° F Aitken points out that —

> In tuberculosis, especially in its acute form, the persistent maintenance of an uniformly high temperature will alone show that no arrest in the progress of the disease has occurred (p 48) Continuous daily observations by the thermometer thus teach the typical laws of particular forms of fever and supply the grounds or basis by which it is determined whether any individual case is progressing as it ought to do (p 47) It is rare, however that a definite diagnosis or prognosis can be based on a single observation (p 44) The amount of heat is also at first reduced after a *full meal* and the use of alcohol but it rises again as digestion advances (p 40) *Active exercise* (not carried to the extent of exhausting fatigue) raises the temperature proportionally to the degree of muscular exertion made (p 40)

Writing, in 1866, "On the Use of the Thermometer as a Guide in the Diagnosis of Pyrexial Diseases," Dr F W Gibson,[47] after indicating the work done by Wunderlich, refers to the chapter on the range of temperature in disease in Aitken's "Treatise of Medicine" as affording a new field of medical investigation

> Before 1858 'the real importance of daily records of the temperature of the body in such [pyrexial] diseases was almost unknown but Drs Parkes Jenner Ringer and others are labouring in the same field in this country and the day is not I think very far distant when the physician will consider the thermometer not less indispensable to him than the stethoscope or microscope and when the surgeon will not neglect the observations of the temperature since Billroth has brought forward sufficient proofs of its great importance as an assistance in the diagnosis of surgical diseases '

Following Wunderlich he gives the normal temperature as 98 5° F, and assents that it may rise for a short while above, or fall slightly below this even in the healthy individual, but a permanent rise above 99·5° F or fall below 97·3° F "is a sure sign of disease" He points out that exposure even in a fairly warm room induces a fall, as do also a full meal and the use of alcohol, but that there is a rise of temperature as digestion advances and that temperature is lowered by sleep Finally, he claims that temperature is a much more certain guide to the pyrexial condition than is the pulse rate, and that although the two often rise and fall together, this is by no means invariably the case, and instances the frequency of the pulse induced by weakness which is accompanied by a distinct lowering of the body temperature He records that Mr Griffin, Mr Casella, and Messrs Negretti and Zambra all manufacture most excellent thermometers, and refers to Dr Aitken's maximum self registering instrument, which does not require to be read *in situ*, but may be removed and inspected when convenient

Investigations on the Bodily Temperature.

One of the most important of the papers that appeared about this time was a contribution to the subject by William Ogle, M.D[42] This observer set out to obtain for man a standard normal temperature with which the temperatures met with in disease might be compared, to see what diurnal fluctuations might occur, and to determine the conditions on which such fluctuations might depend.

After referring to Dr John Davy's two similar series of observations,[43] he compares Davy's results with his own, and points out what he holds are considerable differences, though when he compares sets of records taken from two different individuals he gives differences as marked as those he mentions as existing between Dr John Davy's figures and his own Dr Ogle finds that the diurnal variations are greater in man than in the woman and run through a wider range In the woman the temperature at 8.30 in the morning is 98° F, it rises steadily until the afternoon (3 to 5 P.M) to 98·8°, and from this point it falls until midnight to 98° No early morning temperatures were taken In the man the temperature at 8.30 is about 3/10° lower than in woman, the highest point is reached at from 6.30 to 7.30 in the evening, and there is a steady fall until after midnight to 97·9° or 98° On continuing the observations through the night it is found that the lowest temperature recorded, 97·2°, is between 6 and 6.30 A.M, and that from this point there is a steady rise These variations always recur in the same individual whilst in health within a certain small range, 3/10°, though—

> In one person the maximum heat was attained at an earlier period in the day than was the case with the other, and this peculiarity recurs each time. So in one person the morning temperature was considerably higher than in the other and this difference is repeated in each of the three months

He maintains that the lowest temperature of the body occurs about daybreak, that after the maximum is reached in the afternoon or evening the change in temperature is at first slow, except when wine is taken but becomes more rapid after 9 or 10 o'clock and continues till daybreak, when the cycle begins again He found that the average diurnal variation is about 1·5° F, and hints at the effects of external cold and heat on the body temperature He also discusses the effects of food and exercise and functional metabolic activity Short exposure to cold raises the internal temperature but prolonged exposure has the opposite effect, as also has exposure to temperatures higher than that of the body He agrees with Davy that exercise raises the temperature of the body—of the extremities much more than that of the internal organs As regards food, he notes that both breakfast and lunch are followed by a considerable rise of temperature, but that there is usually a marked and rapid fall after dinner, and he thinks that this latter may be due in some measure at any rate, to the "gradual cooling of the body heated by exertion. But this is not the whole explanation." He found that claret taken at dinner was always followed by a rapid fall of temperature, though after a time there was some recovery, and, indeed, that in some cases the temperature rises after alcohol has been taken to a point that cannot be considered normal. Tea, on the other hand, retards the fall very considerably The greater part of the rise of temperature is due to the combined influence of exercise and metabolism, The "organic functions" which correspond more or less closely with those of animal life have a period of repose which is "less perfect and begins and ends earlier" than that of the functions of animal life

In a series of unsigned articles on the thermometer in disease that appeared in the *Medical Times and Gazette* during 1866, the importance of the use of the thermometer in different diseases is, as above indicated, referred to, and it is insisted that "in every case of fever, no matter from what it originates, the temperature is elevated, and this elevation of the temperature is the only constant symptom of fever" Instructions and warnings are given as to the use of this instrument The temperature should be taken twice in the day, at 8 A.M. and 8 P.M., and it is stated that it is better to use a thermometer constructed for the purpose, those of the ordinary make being often untrue and always difficult of application It is pointed out that in health there may be an elevation amounting to 2° or 2·5° F, from a minimum temperature of 97° to a maximum of 99° or 99·5°, and that the daily variations of the temperature in health are greater in young people than in adults, that the lowest temperature is reached usually between 12 P.M and 4 A.M., and a maximum about 12 noon, and that all this must be taken into consideration in interpreting the temperature in cases of disease

The importance of a rise of temperature in inflammatory and tuberculous conditions is insisted upon "While tubercle is being deposited in any of the organs of the body the temperature of the patient is preternaturally raised," and the writer continues "Temperature is a measure of the rapidity with which tubercle is being deposited in any of the organs of the body" If there be a chronic elevation of the temperature and this be not due to rheumatism, ague, suppuration, or chronic induration of the lung, such an elevation must be considered to be due to a tuberculous deposit in the body

In the June number of the same volume Dr F W Pavy, F R.S,[44] describes a case which, he argues, justifies the employment of the thermometer as a means of affording information in disease and as exemplifying "the extent of variation of temperature that may be in the course of disease within a few hours produced, and of the precision with which thermal manifestations transpire

SUMMARY OF OTHER INVESTIGATIONS

Sydney Ringer, M D, and Walter Rickards, M D, in a work "On the Temperature of the Body as a Help to Diagnosis in Tubercular, Cancerous and Other Forms of Consolidation of the Lungs,"[50] point out that the *temperature of the body* is always preternaturally elevated while tubercle is being deposited in any of its organs, a condition wanting, they maintain, in cases of cancer unless associated with the formation of abscess and the production of pus

Dr J S Warter, in 1866,[51] writes —

> In health there is a normal daily elevation *often from 2 to 2 5 degrees Fahrenheit*, the morning temperature being the lowest and the evening one the highest. A full meal and the ingestion of alcohol is also said to lower *pro tempore* the heat of the body

He maintains that sufficient information may be obtained from a single observation per diem made at midday The claim that observations should be made at the same time each day is thoroughly sound, whether these observations are made once or twice a day, but there is little doubt that he is in error in assuming that these one or two daily observations are sufficient for all clinical purposes, an error that soon became patent to intelligent clinicians

During the epidemic of cholera in London in 1866 Mr F M Mackenzie made "Notes on Various Subjects Connected with Cholera as Observed in the London Hospital" (Appendix to vol III of the "Clinical Lectures and Reports by the Medical and Surgical Staff of the London Hospital," London, 1866) These notes contain a statement of the temperature observed in the armpit and in the rectum or vagina respectively in 40 cases of "extreme collapse" The average temperature of these cases was 94 9° F in the armpit and 100 6° in the vagina or rectum, whilst the extremes of temperature noted were 91 2° and 105 6° In the groin the temperature is about 2° higher than it is in the armpit (quoted by Chapman)[52]

W Ainslie Hollis, M B Cantab, in 1867[53] contributed a series of excellent observations made with thermometers manufactured by Smith and Beck and by Casella, two of them curved, three of them straight registering instruments

> As a rule, even in acute diseases I rarely *exceeded a single observation daily*, in chronic *cases one* or two *observations a* week were usually sufficient The hours selected were various, but *as nearly as might be the same for each case*

We can scarcely agree with the following —

> I cannot allow this subject to pass [he says] without strongly reprobating the practice of taking in severe cases several (sometimes even hourly) observations in the day, this *nimia cura medici* (if worthy of the term) can do no commensurate good to science compared with the *incon*venience, not to say distress, which it occasions patients who have to submit to it

He gives lists of the morbid or vital processes which "probably tend (*a*) to lower and (*b*) to increase the temperature of the body

A series of most valuable papers on temperature was contributed by E Long Fox,[54] who claims that the thermometer rightly used may be of the greatest value to the busiest practitioner and in many cases "paradoxical as it may sound will save his time He makes a reservation, however that too much must not be expected from the thermometer and that, "as a preliminary remark it is useful to remember that, for all persons, under all conditions the normal temperature is so nearly the same as only to vary by about 1° Fahr," and that "pathological temperature is embraced within the limits of about 15 3° F," that the temperature of 100° indicates fever, one of 96 8° "as indicating an algide condition due to some depressing influence," such as those immediately following acute disease in debilitated subjects, the use of drugs, hæmorrhage *prolonged vomiting and diarrhœa, and rigid* diet in convalescence, all *of which he claims are* causes *of a more or less temporary character* Causes *of more persistent type are disturbed* circulation *from organic* disease of the heart, diseases interfering *with the respiration*, the agony of certain diseases, alcoholism and chronic uræmia in which owing *to* the toxic condition of the blood oxidation of the tissues is interfered with, malnutrition due to the interference with the ingestion of food, dropsy and anæmia and certain chronic morbid conditions of the brain such as melancholia and dementia He points out, however, that it is specially useful where there is a rise of temperature, and in his long series of articles indicates that the character of the temperature may be of great value in diagnosis, instancing the regular ascent, prolonged stationary period, and gradual defervescence of enteric fever He points out the character of the temperature curve in relapsing fever, and maintains generally that the higher the temperature the more serious the prognosis

Further, it is on record that "*Staff Surgeon* Remond[55] of the late Hanoverian Army, *used* thermometry *in ascertaining the health of recruits*, malingering, and in determining *questions of* service and *transport*"

About this time Goodhart,[56] who was *evidently* stimulated by Aitken and Wilks *to study* Wunderlich's work and then to make *observations* on his own account, says —

> At the present time many look upon this instrument [the thermometer] as very interesting in the study of the natural history of disease, but as a thing of *comparatively little* value for the everyday work of *medical practice It may be that* too much was expected and *asked of it*, that the estimation of temperature *as an aid to diagnosis* was such a rational idea *that no adverse criticism* was ever offered on the introduction *of the thermometer* and that *at once* without proof or warrant its advocates were allowed to claim *for it a use* in every possible disease *From this one extreme we have gone* nearly to an opposite and *there are reasons for saying* that now in many instances the *temperature does not guide us as* much as it might do and that auscultation and *thermometry* do not go hand in hand *as they would do had every member* of our profession made *trial for himself of the latter mode of* investigation

Charts are given of temperatures taken once a day, then twice a day, morning and evening, and of surface temperature above, below, and on an abscess swelling Goodhart, in describing his experiments, writes —

> The condition of the skin whether dry or moist has some influence on the ascent of the mercury in the latter state the rise is usually slow while with *a dry and pungent* surface as in pneumonia it is sudden *An apparent contra*diction to this statement is *sometimes observed* in patients during the last *stage of typhoid* and other diseases in whom while *sweating profusely* the temperature may rapidly *rise* to a great height

He gives an interesting summary *of his observa*tions on temperature in disease *made during* 12 months, on the influence of drugs *over the* progress of disease and on the *practical points* that he has observed in connexion *with thermometry* as an aid to diagnosis, prognosis, *or treatment* (p 374)

INTRODUCTION OF IMPROVED CLINICAL THERMOMETERS

Clinical thermometry, however, as already noted, became practicable and popular only after the introduction of the clinical thermometer in its present form Clifford Allbutt,[57] reviewing Wunderlich's work in the *British and Foreign Medico Chirurgical Review* for April and July, 1870, gives a brief account (op cit, vol xlv, p 437) of his share in the introduction of the thermometer into general practice. He writes —

> The first clinical thermometers made in this country were those of Casella under the direction of Dr Aitken They were, however too cumbrous for general practice, and for this reason the thermometer long remained a stranger to the busy practitioner A few years ago I applied to Casella, but he had no pocket thermometers and seemed indisposed to make them I therefore set to work with Messrs Harvey and Reynolds to manufacture one and it was not so easy as it may seem to devise an accurate thermometer of a new form, and with a safe and portable case

The sale of the instrument, at first slow, increased rapidly, and Hawksley and others soon began to make and sell it All were graduated on the Fahrenheit scale, and a venture, made at Dr Allbutt's suggestion, with thermometers having Centigrade scale "stopped the sale promptly," for Harvey and Reynolds "made an instrument having both scales upon it, but no one bought it," and he continues "When I first designed pocket-thermometers I made them to fit within stethoscopes, but I did not like the results nor did others"

Dr Willson[58] writes —

> In 1864 I attended a number of cases of typhus My principal, Mr Leonard possessed a clinical thermometer, small and neat non registering the index on an ivory plate, below which the bulb protruded about 1 in. for placing in the mouth or axilla I used this instrument on several occasions

In 1868 *Potain*[59] described a very convenient and portable form of thermometer which he had contrived 11 or 12 cm long and the thickness of a quill It recorded quickly (two or three minutes) and was graduated to 0 1° C with the scale marked on the glass Coloured alcohol was the material used

A writer in the *Medical Times and Gazette* in 1868 draws attention to Allbutt's 'most excellent little self registering thermometer which is now being extensively used throughout the country, and cautioning those who use it not to expose it to a temperature of anything beyond 120° F He mentions certain thermometrical observations made by Mr Teale from which he concludes that—

> In many instances disease may be recognised by local changes in temperature, as for instance when it is suspected that a joint is inflamed the comparison of its temperature with that of the healthy one on the other side may lead to a correct diagnosis

In a letter dated Oct 19th, 1869, L P Casella[60] states that Professor Phillips, of Oxford, exhibited for the first time at the Great Exhibition in 1851 a self registering thermometer, the principle of registration 'being by means of a speck of air extracted from the mercury of the bulb, and, after completion of the instrument, so placed as to detach any required length of mercury to be used as an index." It is a convenient form of portable registering thermometer but received little notice at the time He continues —

> Dr Aitken of the Royal Victoria Hospital, Netley was directing his attention to the influence of heat on the human frame The sight of one of these thermometers was, I believe, the chief cause of my introduction to that gentleman, and through his kind coöperation "the self-registering clinical thermometer" was quickly and, I must say, most judiciously arranged, the length being about 10 inches, for the double purpose of having the degrees expanded and keeping the graduations a sufficient length from the bulb

In 1869 a new clinical thermometer appeared. THE LANCET of July 3rd, 1869, p 12, in a short note states —

> A handy clinical thermometer has been devised by Mr Hawksley, of Blenheim street, late foreman to Mr Baker of Holborn. It is about the size of Dr Allbutt's thermometer, and is graduated in fifths of a degree Fahr

The wooden cases was marked with comparative scales of Fahrenheit and centigrade and also scales of inches and eighths of an inch.

Dr B Cornelius Fox,[61] in "Remarks on Clinical Thermometers" in 1869, described the various thermometers then in use, criticising their manufacture in some cases very strongly He noted the inaccuracies of readings of the thermometers supplied by different makers, even with those sold with Kew Observatory certificates, and he concludes by trusting "that the preceding remarks will tend to create an interest in the employment of the thermometer amongst those who have hitherto felt none, and will, moreover, intensify the interest of all who study such an exceedingly important subject as 'the thermometry of disease'"

MEDICINE WITHOUT THE AID OF THE THERMOMETER

From this time onwards clinical thermometry gained rapidly in usefulness and popularity, though Wilks,[63] in his "Biographical Reminiscences" (p 143), commenting on Goodhart's paper on Thermometric Observations in Clinical Medicine,[65] says the instrument at that time had not come into general use, and, writing in 1903, he states that—

> In 1870 he 'requested the Superintendent at Guy's to procure a clinical thermometer I think it was *nearly a foot long* [the italics are ours] and was so great a novelty that it was taken to a South Eastern meeting of the British Medical Association for exhibition, where the members regarded it with much curiosity and interest although, I am sorry to say, one or two with ridicule." "It was at the service of anyone who might wish to make use of it"

He believes that the section in Dr Aitken's 'Practice of Medicine' setting forth the value of thermometry in clinical investigation, in accordance with the researches of Wunderlich, was the first that appeared in any treatise of medicine published in this country, and caused the new method to be widely known, "at all events it was from the knowledge therein gained" that he (Wilks) was led to make the above request to the 'Superintendent at Guy's" That clinical thermometry had made little headway in the United States up to 1865 is borne out by Garrison's[10] (p 639) statement that "neither Keen nor Tyson saw a clinical thermometer or a hypodermic syringe during 1862–65 Billings, however, in taking care of the wounded from the seven days before Richmond (1862) had provided himself with both'

It is only when we come to realise that the physicians and surgeons of those days had to make their diagnoses, carry on their treatment, and form their prognoses without having at command what appears to us to be an almost essential instrument of precision, so necessary has its use become to the modern clinician, that our respect for these older physicians and surgeons and their power of diagnosis attains its full measure

Bibliography (*Part I*)—1 Martine (1740) Essays, Medical and Philosophical London 1740 A collection of six essays four of which were reissued together as a second edition, Edinburgh 1772, *with the title* Essays and Observations on the Construction and Graduation of Thermometers and on the Heating and Cooling of Bodies This went through a number of editions the Cambridge University possessing a copy *of the* 4th ed Edinburgh, 1787 This writer also published in 1740 De similibus animalibus et animalium calore libri *duo*" Gamgee following Wunderlich ascribes a work of this date and with almost identical *title to Charles* Martin *but* confesses he has not been able to see a copy 2. Cleghorn (1751) Observations on the Epidemical Diseases in Minorca from the year 1744 to 1749 London 3 Currie (1797): Medical Reports on the Effects of Water *Cold* and Warm as a Remedy in Fever and Febrile Diseases Liverpool 1797 4th ed London 1805 4 Arnott (1822) An Account of the Last Illness Decease and Post-mortem Appearances of Napoleon Bonaparte, London 5 Wunderlich: *Das Verhalten der* Eigenwärme in Krankheiten, Leipzig 1868 Transl from 2nd *German ed of 1870 with additions as vol* xlix *of the New* Sydenham Soc publications London, 1871 Wunderlich published a paper on the Employment of the Thermometer at the Bedside in the Archiv für physiol Heilkunde, N F i 5-16 a full abstract of which appeared in the Med Times and Gaz. for 1858 xvi 639-41 He claims *to have made in his clinique* at least a million exact thermometrical observations and carefully compared the results in more than 5000 patients he constantly employed the thermometer in private practice and taught his pupils the use of the same He has also summed up the principal conclusions under the *accounts of* the respective *diseases* in his celebrated Handbuch der Pathologie und Therapie (originally pub at Stuttgart in 3 vols in 4 *1846-54* and a 2nd ed 4 vols in 6, in 1852-6) Another article by him was published in Archiv d Heilkunde I 1860 386, and translated in full abstract in Med Times and *Gaz. for 1861 ii 326 385* Amongst other articles published by him were Die Thermometrie bei Kranken Archiv f physiol Heilkunde Stuttgart 1857 Ueber den normal Verlauf einiger typischen Krankheitsformen, ibid, 1858 Vorträge ü *Krankenthermometrie* in Archiv der Heilkunde, Leipzig vi viii 1865-7 The 1st ed of his separate work was published in *1868* and a 2nd ed in *1870* 6 Sanctorius; Commentaria in primam fen primi libris canonis Avicennae, Venetiis 1625 (cited by Garrison) and again 1646; Commentaria in Artem medicinalem Galeni, Venetiis 1612 and *Lugd* 1632 (*consulted in the* Library of the Roy Soc Med) De statica medicina, Venetiis 1614 (cited by *Gamgee*) and numerous later editions 7 Boerhaave (1709) Aphorismi de cognoscendis et curandis morbis in usum doctrinae domesticae Lugd Bat, an English translation was published in 1715 8 Van Swieten *Commentaria in Hermanni Boerhaave* Aphorismos de cognoscendis et curandis morbis 6 vols Lugd. Bat, 1742-75 See tom secundus *1745*, p 287 Translated into English 1744-54 9 de Haen: Ratio medendi in nosocomio practico, 15 vols., Vindobonae *1758-69* also 7 vols Vindobonae, 1757-70 and 11 vols Parisiis *1761-78 Gamgee quotes the edition publ Lugd* Bat. 1761 and adds vide De supputando calore corporis humani i cap xix 118 Ratio medendi in nosocomio practico Vindobonensi 8 vols Venetiis 1785 10 Garrison (1913): History of Medicine Philadel and London, 287 11 Macard (1741): De generatione caloris et usu *in corpore* humano Dissert Gottingae 12 Pickel (1778) Experimenta physico-medica de electricitate et calore animali Würzburg 13 Blagden (1775) Experiments and Observations in an Heated Room Phil Trans Roy Soc. London vol lxv iii 484 14 Hunter Experiments on Animals and Vegetables with Respect to the Power of Producing *Heat, Phil Trans* London *for 1775* vol. lxv p 446 Of the Heat, &c of Animals and Vegetables ibid 1778, London 1779 lxviii, 7 A Treatise on the *Blood* Inflammation and Gunshot Wounds, London 1794 reprinted in Works of John Hunter Palmer's ed 1837 London iii, 1-580 also Observations on Certain Parts of the Animal *Œconomy London* 1837, 131. 15 Lavoisier and Laplace: Sur la Chaleur in Hist. Acad Roy d Sc, 1780 Paris 1784 pp 355-408 16 Mitchell (1892): The Early History of Instrumental Precision in Medicine New Haven Also in Trans Ass Amer Phys. 1892. [This is apparently an incorrect reference and we shall be glad of any help in the matter] Bolton (1900) Evolution of the Thermometer 1592-1743 Easton Pa should also be consulted 17 North (1811): A Treatise on a Malignant *Epidemic, Commonly* Called Spotted Fever Interspersed with Remarks on the Nature of Fever in General &c. New York. 18 Brodie: On some Physiological Researches Respecting the Influence of the Brain on the Action of the Heart and on the Generation of Animal Heat (Croonian Lecture for 1810) Philos Trans London 1811 pp 36, 207 Further Experiments and Observations 1812, p 378 These two papers together with an earlier one Account of the *Dissection of a* Human Fœtus in which the *Circulation of the* Blood was Carried on Without a Heart (Philos Trans London 1809 pp 161-8) are translated by D Nasse in Reil and Autenrieth's *Arch f d Physiol. Halle, 1815* xii and *followed* by an article by himself Bemerk z. Brodie's Versuchen ü d thierische Wärme op cit, p 404 pronouncing strongly in favour of *Brodie's theory* Further Exper and Observations on the Influence of the Brain on the Generation of Animal Heat New Med and Phys Journ *London* 1813 v 129 Pathol *and Surg Observations* Relating to Injuries of the Spinal Cord Med Chir Trans London 1837 xx 147 Physiological Researches collected and republished *from* the Phil Trans London 1851 19 Dalton (1813): Mem. Lit and Philos Soc. of Manchester (2) ii p 43 20. Davy An Account of Some *Experiments on Animal* Heat Philos *Trans London* 1814 p 590. He republished his earlier statements in Researches Physiol and Anat. 2 vols *London* 1839 21 Gentil (1815): *Sur la Chaleur Animale* Dissert Paris 22. Thomson (1813) On the Heat Evolved during Inflammation of the Human Body Annals of Philos London ii 26 *translated* in Deutsches Archiv f d Physiol Halle 1817 iii 465 23 *Home: On the* Influence of Nerves and Ganglions in Producing *Animal Heat Philos Trans London* 1825, *p* 257 1826, *p* 63 See also An Account of Some Experiments on Animal Heat in his Researches Phys and Anat London 1839 i 141 24 *Becquerel and Breschet* (1835): Ann d Sci Nat Paris 2 sér Zoologie iii iv ix &c 25. Berger: Mem d l Soc. de Phys et Hist. Nat de Genève vi Pt 2, 257 and 1835, vii 1 26 *Bouilland* (1837) Clin Méd de l'Hôpital de la Charité Paris 1837 i 294; iii 428 27 Donne (1836): Arch Gén de Med., *Paris* 2 ser., ix 129 28 Piorry (1835): *Traité de Diagnostic et de Séméiologie* Paris iii 28. 29 Wistinghausen (1837) De calore animali quaedam. Dissert Dorpat. 30 Nasse C F and H: Untersuchungen z *Physiologie* u. Pathologie 2 vols Bonn 1835-9 vol ii (1839) 115 (C F N) and 190 (H N) Nasse D (1815): Bemerk z. Brodie's Versuchen ü d thierische Wärme Reil and Autenrieth's Arch f d Physiol Halle xii. 404 Nasse F (18[illegible]) *Fragen ü d Quelle* der in den lebenden Körpern erzeugten Wärme Rhein Monatschr f prakt Aerzte Köln ii 450. *Die krankhafte* Wärme-Erzeugung im menschl. Körper ibid. 1849 iii 133 Nasse G (1849) Die thierische *Wärme in Handwörterb* d. Physiol. Brnschwg. 1849-53, iv 1-106 Nasse W (1843) Versuche ü d. Antheil des *Herzens* an der Wärme-Erzeugung Med Cor Bl Rhein. u. Westfäl Aerzte Bonn ii 215 31 Willson (1903): Brit. Med. *Jour London* i., 1181 32. Lloyd Jones (1903): Ibid 33 Chaplin (1913): The Illness and Death of *Napoleon Bonaparte London* 34 Arnold (18[illegible]) A Practical Treatise on the Bilious Remittent Fever its Causes and *Effects London* 35 Andral (1841): Lectures on General Pathology (cited by Wunderlich) 36 Gierse (1842) Quaenam sit *ratio caloris* organici partium inflammatione laborantium Dissert Halle. 37 Hallmann (1844) *Ueber eine zweckmässige Behandlung* des Typhus Berlin 38 Roger (1844) De la Température chez les Enfants à l'État *Physiologique* et Pathologique Paris *reprinted* from Arch Gén de Méd Paris 1844 &c. sér 4 v-ix. 39 Demarquay Recherches Expérimentales sur la Température Animale Paris, *1847* See *also Duméril and Demarquay Recherches* Expérim s. l Modifications Imprimées à la Température Animale Paris, 1848 and *Duméril* Demarquay and Lecomte, Rech. Expér s. l Modifications Imprimées à la Temp. Animale par l'Introduction dans l'Économie, de Différents Agents Thérapeutiques (abstr) Comp Rend Acad *d Sc.*, Paris, 1851 xxxii 463 541 801 902 xxxiii 4[illegible] 40 Zimmermann Med Zeit. d Ver f Heilkunde in Preussen, 18[illegible] *1847 1852* Archiv f physiol Heilkunde, 1847, 1850 and in his own and other journals Ueber die Analyse des Blutes Berlin 1847 Klin. Unters ü Fieber Entzündungs- und Krisen Lehre 1854 41 Davy: Miscell. Obs on *Animal Heat Phil Trans London* 1844 p 57 On the Temperature of Man ibid 1845, p 319, On the Temperature of Man within the Tropics ibid 1850 p 437 republished in his Physiological Researches *London 1863* 42. *Bärensprung (1851)*: Unters ü d Temperatur Verhältnisse des Fötus und des erwachsenen Menschen im gesund u kranken Zustande (Müller's Archiv Berlin. 1851 p 126 1852, p 217 43 Traube (1850) Annalen der Charité Krankenhäuser zu Berlin Bd i (*1850*) also *ibid* 1851. 43a. Liebermeister: Die Regulirung der Wärmebildung bei Thieren von constanter Temperatur Deutsche Klinik Berlin 1859 No 40 Physiol. Unters ü d quantit Veränd d Wärmeproduction Reichert's Archiv Leipzig 1860 520 589 and 1861 28 Handb d Path u Therapie des Fiebers, Leipzig 1875 44 Livingstone (*1857*): Missionary Travels and Researches in South Africa, London 45. Brydon (1903): Brit Med. Jour London i 1181 46 Aitken (1863): The Science and Practice of Medicine second ed London 1863 i 40 and this section entirely re-written and enlarged in third ed. 1864 i 32-63. 47 Gibson (1866): *On the Use of the Thermometer* as a *Guide* in the Diagnosis of Pyrexial Diseases, Brit. Med. Jour London, i 249 273 48. Ogle (1866): On the Diurnal *Variations in the Temperature of the* Human Body in Health St George's Hosp *Rep* London i 221 49 Pavy (1866): Med Times and Gaz. London i 659 50 Ringer and Rickards (1866) Ibid i *250 See also Ringer* On the Temperature of the Body as a Means of Diagnosis in Phthisis and Tuberculosis London, 1865 51 Warter (1866): *St Bart's Hosp Reports London* ii 64 52. Chapman (1895) Cholera Curable: a Demonstration of the Causes Non-contagiousness and Successful Treatment of the Disease London 53. *Hollis (1867): St* Bart.'s Hosp Reports London iii 225. 54 Fox (1870): Med Times and Gaz. London 1870 i ii 55. Remond (1868): Zeitschr f gerichtl Med (*cited in Med Times and Gaz.* i. 238) 56 Goodhart (1870) Thermometric Observations in Clinical Medicine Guy's Hosp Rep *London* 3 ser xv 365 57 Allbutt (1870) Medical *Thermometry Brit* and For Med Chi Rev London xlv 429 xlvi 144 58. Potain (1868): Union Méd Paris Feb 11th 1868, see extract in Med Times and *Gaz.* London 1868 i 238. 59 Med Times and Gaz. (*1868*) *London i 341 60* Casella (1869): Clin Thermometers letter in Med Times and Gaz. London *ii 611 61 Fox (1869)*: Remarks on Clinical Thermometers, Med Times and Gaz. London ii, 459-61 also (abstr) THE LANCET London ii 180 and Brit. Med Jour *London* ii 247 62. Wilks (1911): Biographical Reminiscences of Sir Samuel Wilks London

(*To be continued*)

THE DR DAUBER MEMORIAL NURSES' PRIZE FUND—As we have previously announced, it has been thought desirable to raise a *Memorial Fund to perpetuate* the memory of *Lieutenant* Colonel J H Dauber R A M C, *an* obituary notice of whom appeared in our columns on Sept 25th 1915 He was in command of the East Anglian Clearing Hospital but lost his life in the sinking of the transport ship *Royal Edward* on the way to the Dardanelles in August last Almost one of the last things that Dr Dauber did, revealing his public spirit was to write an important letter to *The Times* of July 9th, 1915 calling attention to the dissipation of strength by municipal and public bodies in expenditure on local undertakings not necessary to our military success which he maintained should be our one thought aim and hope The sentiment is to-day more than ever true. Dr Dauber was for many years lecturer to the nursing staff at the Soho Hospital for Women and the training of the nurses on the theoretical side of their work was entrusted entirely to him It has been decided to institute a fund to be called The Dr Dauber Memorial Nurses' Prize Fund " the income to be applied yearly in distributing prizes to the members of the nursing staff of that hospital It is hoped to raise a sum of about £250 Donations should be sent to the secretary, Mr Alfred Hayward, Hospital for Women Soho square London W

ON THE BACTERICIDAL POWER ACQUIRED BY THE SERUM AFTER THE ADMINISTRATION OF SALVARSAN OR NEOSALVARSAN

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SHORTLY after the introduction of salvarsan as a curative agent for syphilis it was noticed that lesions secondarily infected with pyogenic cocci yielded to the treatment almost as promptly as those in which such secondary infections were absent Investigations carried out in this laboratory showed that such recoveries were not associated with any increase of the antibacterial powers of the patient s blood fluids, as measured by the opsonic index. Taking these facts into consideration, together with the well known antiseptic qualities of many arsenic compounds, it was suggested by Sir Almroth Wright that it would be of interest to ascertain if the serum acquired a bactericidal action after the administration of salvarsan or neosalvarsan

Shortly before the preliminary experiments were made by one of us (S R D) to demonstrate this bactericidal power, Wright had completed some researches on a quinine derivative,[1] now known as optochin, which had been shown by Morgenroth to be capable, when introduced into the blood, of killing off pneumococci in infected mice Wright by means of these experiments, which were carried out *in vitro*, was able to demonstrate that optochin was apparently just as active in its bactericidal power against the pneumococcus when in solution in serum or blood as when dissolved in water or saline solution, and that it was, in this respect, unlike other chemical bactericidal agents

Ehrlich had already enunciated the theory that the curative power of salvarsan and neosalvarsan in regard to diseases caused by spirochætes was due to these drugs having either a greater affinity for the spirochætes than for the tissues or the blood, that is, in the technical phraseology, it was more parasitotropic than histo or sero tropic, or, even if the drug did enter into combination with the blood or tissues, this combination was so loose that in the presence of the parasite dissociation took place, thus allowing the drug freedom to act on the parasites

These experiments of Wright s suggest that such theories were applicable to the whole range of chemo, or as he prefers to call it pharmaco therapy It was therefore decided before further investigating the bactericidal action of patients' serum after the administration of the drug to ascertain by a series of similar experiments whether salvarsan and neosalvarsan were more bacteriotropic than sero or hæmocyto tropic

In Vitro Experiments

The methods used in these investigations were as follows —Dealing in the first place with neosalvarsan a 1 in 300 watery solution was made To test the bactericidal power of the various mixtures made with this "stock" solution of neosalvarsan a 24 hour old broth culture of staphylococcus was used

Preference was given to the staphylococcus over other organisms in this and in many of the following experiments, firstly, because of the ease with which young broth cultures can be accurately diluted, secondly, because serum has little or no bactericidal action against it even in highly immunised individuals, and, thirdly, this organism having a very considerable resistance to most antiseptics, if positive bactericidal results were obtained, it might be safely assumed that very many other organisms would be similarly affected.

The reservoir of a Wright's bactericidal pipette[2] having been filled in with broth, a mixture made of 1 volume of the solution to be tested and 1 volume of the dilution of the staphylococcus culture was drawn up into the capillary portion. After incubating the tubes overnight at 37° C the contents of the capillary portion were drawn up into the broth contained in the reservoir Further incubation at 37° C indicated by the presence or absence of growth whether the various solutions containing the neosalvarsan had killed off the staphylococci or not

The various mixtures containing neosalvarsan which were tested for their bactericidal power were I The 1 in 300 solution of neosalvarsan diluted ten fold with salt solution II This same solution diluted ten fold with serum. III This same solution diluted ten fold with blood. The blood was then allowed to clot, and the serum which exuded from the clot was the fluid tested The results obtained are set forth below in tabular form (Table I) —

TABLE I.

Dilution of the broth culture of staphylococcus which contained 260 000 000 cocci per c c	I 1 in 300 solution of neosalvarsan diluted ten fold with salt solution	II 1 in 300 solution of neosalvarsan diluted ten fold with serum	III 1 in 300 solution of neosalvarsan diluted ten fold with blood.
1 in 1 000 000	Sterile	Sterile.	Sterile
1 in 100 000			
1 in 10,000			"
1 in 1 000		Growth.	"
1 in 100		"	Growth.
1 in 10	Growth.		

This experiment shows that the 1 in 300 solution of neosalvarsan, diluted with normal saline solution, was considerably more actively bactericidal than when the same 1 in 300 solution was diluted with an equivalent amount of serum or blood It further indicates that the serum has a greater effect in inhibiting the bactericidal power than is possessed by the blood, which suggests the fluid constituents of the blood being the binding agents rather than the corpuscles

This same experiment was then carried out with fluids containing salvarsan A 1 in 300 solution of salvarsan was made and carefully neutralised with sodium hydrate From this solution the following mixtures were made I The 1 in 300 solution of salvarsan diluted ten fold with normal saline solution II The same solution diluted ten fold with serum III The same solution diluted twenty fold with blood, which was then allowed to clot The serum thus obtained was used for the test

It is to be noticed that mixture No III was made by adding 1 volume of salvarsan solution to 19 of blood, instead of, as in the case of the test applied to the neosalvarsan, making a 1 in 10 dilution with blood This was done in view of the fact that the corpuscles represent about half the volume of the blood Again the bactericidal power was tested against a culture of staphylococcus The bactericidal tubes were incubated for one hour at 37° C after the mixture of culture dilution and the fluid containing the salvarsan had been introduced into the capillary portion instead of, as in the case of the experiment carried out with neosalvarsan, being left overnight The results obtained with these mixtures of salvarsan are given in tabular form (Table II)

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[1] Drugs and Vaccines in Pneumonia by Wright London Constable 1914

[2] Technique of the Teat and Capillary Glass Tube by Wright London Constable 1912

TABLE II

Dilution of the broth *culture of staphylo-* coccus which contained 410 000 000 cocci per c.c.	I 1 in 300 solution of salvarsan diluted ten fold with salt solution	II 1 in 300 solution of salvarsan diluted ten fold with serum	III 1 in 300 solution of salvarsan diluted twenty *fold with* blood
1 in 1 000 000	Sterile	Sterile	Sterile
1 in 100 000			"
1 in 10 000			Growth.
1 in 1 000	"		
1 in 100		Growth	
1 in 10	Growth		

This experiment gives almost identical results as those obtained with neosalvarsan

In Vivo Experiments

These investigations were made with the sera of patients who were suffering from various manifestations of syphilis and to whom ordinary doses of salvarsan or neosalvarsan—that is 0 6 grm of the former or the equivalent of the latter—had been administered in the course of their treatment Neosalvarsan was used in eight of the cases, and it was found that in seven of these the serum developed a distinct bactericidal power against staphylococcus In one case the bactericidal power was also tested against a coli form organism with the result that it was found to be equally as well marked as against the staphylococcus In the one case in which no bactericidal power could be found the test was carried out against a very thick culture of B pyocyaneus and only one sample of blood was obtained after the administration of the drug The details of two of these experiments are given below

Experiment 1—The method employed for the demonstration of the bactericidal power was similar to that used in the *in vitro* experiments The organism used to demonstrate this power was staphylococcus, a 24 hour broth culture containing 150 millions living organisms per c c Four samples of blood were obtained The first, immediately before the injection of the neosalvarsan, the second, one hour after the injection, the third, two hours after the injection, the fourth, three hours after the injection The results obtained are shown in Table III

TABLE III

Dilution of culture of staphylococcus which contained 150 000 000 cocci per c c	Serum from blood before injection	Serum *from blood* 1 hour after injection	Serum *from blood* 2 hours after injection	Serum *from blood* 3 hours after injection
1 in 1 000 000	Sterile	Sterile	Sterile	Sterile.
1 in 100 000	Growth			
1 in 10 000	"			
1 in 1 000				*Growth.*

It will be seen that in this experiment 5 c mm of serum (that being the quantity of serum used in each tube) was capable of killing off at least 750 staphylococci one hour after the injection had been given, whereas the serum before the injection had no bactericidal power whatever

Experiment 2—Broth culture of staphylococcus 24 hours old containing 245 millions living organisms per c c Four samples of blood obtained The first immediately before the injection of neosalvarsan, the second one hour after the injection, the third two hours after the injection, the fourth three hours after the injection The results are given in Table IV

TABLE IV

Dilution of the culture of staphylococcus which contained 245 000 000 cocci per c c	Serum *from blood* taken before injection	Serum *from blood* taken 1 hour after injection	Serum *from blood* taken 2 hours after injection	Serum *from blood* taken 3 hours after injection
1 in 1 000 000	Sterile.	Sterile	Sterile	Sterile
1 in 100 000	Growth			
1 in 10 000			Growth	Growth
1 in 1 000		Growth		
1 in 100	"			

In this experiment 5 *c* mm of the serum obtained one hour after the injection was able *to* kill at least 122 staphylococci, whereas this quantity of serum before the injection could at the most have killed but one organism

It will be noticed that while both these experiments show that the serum has developed a very considerable bactericidal power, it is evidently but of short duration, for even after as short a period as two hours it has sometimes passed its maximum Wishing to make certain that the bactericidal power which was almost uniformly found to have developed in the serum was in no way connected with immune bodies, the serum of certain of the cases was again tested after having been heated to 60° C for about ten minutes a proceeding which would have rendered inert any such immune bodies contained in it

The results of one of these experiments given in Table V show that such a temperature was without any detrimental effect, so that it is certain that the lethal action of the serum was in no way connected with immune bodies

TABLE V

Dilution of staphylococcus culture containing 490 000 000 cocci per c c	Serum from blood taken before injection	Serum from blood taken 1 *hour after* injection	Same serum *heated to* 60° C for 10 *minutes*	Serum from blood taken 2 hours after injection	Same serum heated to 60° C *for 10 minutes*
1 in 1 000 000	Growth	Sterile	Sterile.	*Sterile*	*Sterile*
1 in 100 000					
1 in 10 000			"	*Growth*	
1 in 1000					Growth
1 in 100		Growth	Growth		
1 in 10					

In this experiment 5 c mm of serum obtained one hour after the injection was able to kill 2450 staphylococci

Passing now to review the results obtained after the administration of salvarsan, it is seen that contrary to what was expected from the results of the experiments carried out *in vitro* after the administration of this preparation, but little bactericidal power was found in the serum Thus, out of eight cases in which the serum was tested at various intervals of from ten minutes to three hours after the administration of the drug four were found to have developed no recognisable increase of bactericidal power Three of these were tested against cultures of staphylococcus, the other against the pneumococcus, one of those tested against the staphylococcus was also tested against the pneumococcus with a similar result Of the other cases three showed a slightly increased bactericidal power, in one case against the staphylococcus, in another against the pneumococcus, and in the third against staphylococcus and streptococcus The remaining case showed a similar slight increase of bactericidal power against a culture of streptococcus, but none at all against either staphylococcus or pneumococcus

It was noticed, however, in all these experiments, and especially in those in which staphylococcus cultures were used, that the samples of serum obtained after the injection of the salvarsan showed a marked power of inhibiting the growth of the organisms This was evidenced by the slowness of growth—two or even three days elapsing before it could be definitely ascertained if growth was present or absent, and also in those tubes where growth occurred the organisms were agglutinated into masses, so that instead of an even turbidity of the broth a small mass of organisms occurred in the bottom part of the reservoir

In view of the fact that the patients' serum in our experiments always showed a higher bactericidal power after the injection of neosalvarsan than of salvarsan, it is of interest to note that Swift and Ellis,[3] working with Spirochæta duttoni, were able to show a similar difference in respect of spirochæticidal power Further, they showed that patients' serum, after administration of these drugs, acquired a spirochæticidal power for only a few hours, reaching its maximum within the first hour after the injection, and that this spirochæticidal power was somewhat increased, rather than diminished, by heating the serum to 60° C (*cf* Table V above)

Summary and Conclusions

1 Neosalvarsan and salvarsan in watery solutions possess a very distinct bactericidal power against staphylococcus when the strength of the solution is 1 in 6000 When the solvent largely consists of blood or serum this power is slightly diminished The bactericidal power of solutions of both these preparations appears to be practically the same

2 The administration of neosalvarsan in ordinary doses renders the blood fluids markedly bactericidal This power lasts but a short time, and seems to reach its maximum about one hour after the administration of the drug, diminishing rapidly in the third and fourth hours

3 Heating the serum to 60° C for from 10 to 20 minutes has no deleterious effect on this bactericidal power showing that it is not in any way due to the development of immune bodies in the serum, and this fact, together with the short period in which the serum is found to be bactericidal, strongly suggests that the bactericidal power is due to some arsenic compound in solution in the blood serum

4 Salvarsan which as mentioned above, has almost identically the same bactericidal power as neosalvarsan in *in vitro* experiments, gave practically no demonstrable bactericidal power to the patient's serum when ordinary therapeutic doses were administered, but it was constantly noticed that organisms which had been treated with serum obtained within three hours of the administration of the drug grew very much more slowly than normally and were agglutinated into masses

5 In view of the very distinct bactericidal power which the serum acquires after the administration of neosalvarsan, it is reasonable to hope that the administration of this drug, or some similar preparation such as neokharsivan, would have a beneficial effect on wound or other similar septicæmias and might even strikingly assist in the sterilisation of deep and irregular suppurating wounds

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[3] Journ Experimental Medicine Oct 1 1913

A CONTRIBUTION TO THE BIOLOGY OF THE VERMIFORM APPENDIX

BY W COLIN MACKENZIE, M D MELB, F.R S (EDIN)

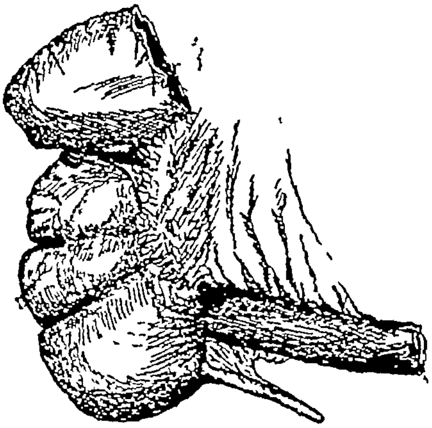
A STUDY of the fauna of Australia offers a unique opportunity in aiding the solution of many important biological questions, and especially those pertaining to the gastro intestine The two monotremes and the various marsupials represent the selected results of a struggle with forces that have been operating through many ages As the survival results among the marsupials are in many ways so diverse we have a distinct advantage in being able to institute comparisons among animals limited to the same order Furthermore, during the last century these animals—lowest on the mammalian scale—were suddenly brought into contact with modern man We are unfortunately now witnessing final phases in the struggle and their biological significances Amongst the marsupials we have on one side the koala, a purely eucalyptus leaf feeder with a cæcum which may reach the great length of 244 cm, and on the other the Tasmanian devil (Dasyurus ursinus), purely carnivorus, which has evolved a simple intestinal tube swung on a single mesentery, with no differentiation except microscopically between the large and small gut Both these are rapidly becoming extinct—the former in spite of a rigid protection Between these varieties we have the opossum (Trichosurus), more adaptable as regards diet than the koala, and hence still numerous in different parts of the continent, and the allied varieties of the Macropodidæ—viz, wallaby, the selected and more adaptable variety whose cæcum may resemble that of the human fœtus and be only 5 cm long, and the kangaroo whose cæcum—much more capacious—varies from 30 to 40 cm In addition we have Phascolomys (wombat), the selected marsupial, living on a nutritious diet of vegetable matter, whose abdominal contents resemble those of man and who shares with him and the higher anthropoids the possession of a true vermiform appendix. To those I propose to add the Echidna

What is meant by Vermiform Appendix

The appendices of these four types apart from size are difficult to differentiate, and subscribe to what Charles Bell and Owen refer to in the definition of the vermiform appendix as a small gut—appended to the cæcum and differentiated externally by a marked commencement and internally by a valvular structure—but bearing no relation in size or figure to any part of the intestinal canal, which, from its smallness and twisted appearance like the writhing of an earthworm, has received the name of "vermiform" As Stapley and Lewis in their important paper[1] write 'It did not occur to Owen on account of the presence of this massed lymphoid tissue to name the end of the rabbit's cæcum 'vermiform' He did not regard the rabbit as showing that rare form which he thought of under the name 'vermiform appendix'" The rabbit has a highly specialised intestine, since apart from the sacculus rotundus there are no less than six distinct areas in the great intestine, making it unfit for comparison Nor did Owen include Lemuroidea, as in his description of the aye aye he is careful to point out, nor did he refer to the appendicular ends of cæca such as one often sees in the phyllophagous koala and opossum, where I have never yet found a single lymphoid follicle

The Validity of Einar Lönnberg's View

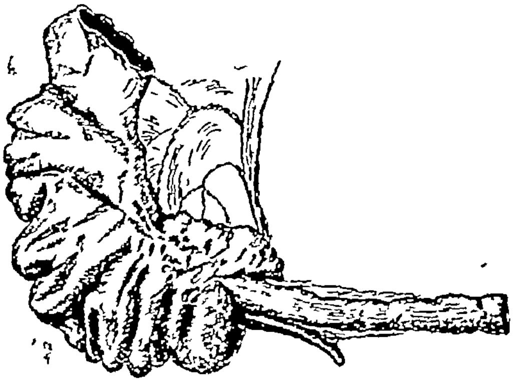
FIG 1



Ileo-cæcal region Phascolomys mitchelli (All the figures are half natural size)

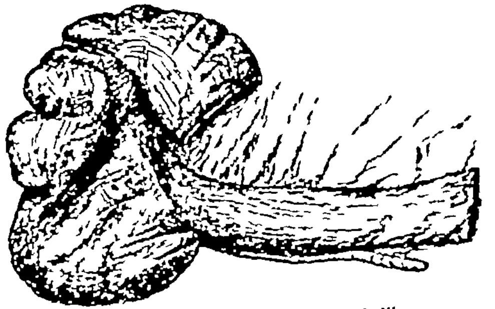
In 1902 Dr Lönnberg advanced the opinion[2] that if the wombat's appendix were a true vermiform appendage—i e , the reduced blind end of a cæcum—it ought to have opened into the cæcum of which it was a part, as it does not, but opens with a quite independent opening of its own near that of the ileum, he judges that the so called processus vermiformis of the wombat represents a rudiment of the whole cæcum, since it acquires a similar situation, opening into the colon in relation with the ileo cæcal valve A new cæcum becomes formed behind the cæcum, the result of a bulge of the colon owing to food alterations—viz , reversion to a more bulky diet Apparently Lönnberg's material was limited, as he tells us when discussing the colic sacculi he had worked on two animals, and further, his description might equally apply to the fourth variety of the human cæcum in which, according to Deaver, the internal sacculus has disappeared entirely and the base of the appendix is attached to the cæcum posterior to the receding angle between the ileum and the cæcum, the opening being sometimes in relation with the ileo cæcal valve Furthermore, we have no evidence that food alterations presumably recent have occurred A reference to Figs 1 and 2 in which the lumen of the appendix is patent, indicates the rotation taking place, and shows the base of the appendix corresponding to the true apex of the cæcum In Fig 3, where the internal opening which was not within the lips of the ileo cæcal valve has closed and the appendix is adherent to the ileum, not only has the left sacculus disappeared, but the right has atrophied almost up to the level of the ileum The average human cæcum, i e, one approaching the fourth type, has a depth of about 6 cm , and in the case of a young orang utang in the Hunterian Museum the depth of the cæcum is 2 5 cm and the width 4 5 cm It approaches the fourth type—the termination of the ileum running obliquely through the intestinal wall being in juxtaposition to the appendicular orifice An examination of a series of 12 Victorian wombats showed that the cæcal depth varied from 1 to 1 5 cm In two cases it was only 0 5 cm and in one case was actually on the ileal level In a latifrons with a well defined lumen, mesentery, and appendix the pouch was 3 cm deep, and in another (mitchelli) with the appendix obviously the apex of the cæcum the depth equalled 4 cm and the width 5 cm The lumen of the appendicular canal was incomplete in 64 per cent of specimens After the twentieth year 32 per cent of human appendices are obliterated The approximation of the base of the appendix towards the ileo cæcal valve is quite in accordance with the evolutionary trend of that organ Lönnberg believes such a movement took place Yet he would not admit of the classification of the wombat with man and the ape, because he believes a new cæcum has been formed, the result of supposed diet alteration To favour that view from the examination of a large number of specimens I have failed to find evidence that, apart from the formation of a new cæcum, even the right external sacculus has enlarged On the contrary, there is abundant evidence of atrophy (Figs 3 and 4) Owen s generalisation[3] that 'the cæcum in the wombat is extremely short but wide, it is

FIG 2



Ileo-cæcal region Phascolomys mitchelli

FIG 3



Ileo-cæcal region Phascolomys mitchelli

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[1] Morphology of the Vermiform Appendix Walter Stapley and J C Lewis Proc Royal Soc. Vict vol xviii

[2] Adaptations in Diprotodont Marsupials Dr Einar Lönnberg Proc Zool Soc London 1902, vol i

[3] Comparative Anatomy of the Vertebrates vol iii

remarkable for being provided with a vermiform appendage," must still be accepted

Types of Human Cæcum

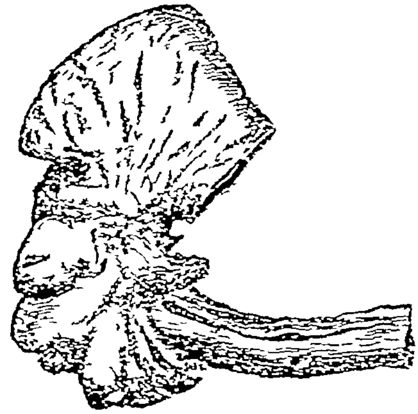
The classical description of Sir Frederick Treves[4] still forms the basis of our comparison He recognised four types (*a*) Infantile, with muscle bands equi distant, (*b*) cæcum more quadrilateral, appendix appearing between two bulging sacculi, (*c*) apex turned to the left and posterior—the base of the appendix is brought nearer the ileo cæcal valve, a false apex formed by the highly developed part to the right, (*d*) sacculus to the right relatively large, while that to the left has disappeared—the root of the appendix appears to spring almost from the ileo cæcal junction No anatomist has ever suggested that the relatively large size of the right sacculus was the result of some reversion to a more bulky diet These four variations become intelligible—not mere statements of facts—if we recognise that each represents a coördinated sequence of the other, each is part of a coördinate scheme in the evolution of the appendix, and no one variation can be regarded as the type

Mode of Disappearance of Structures

It is interesting to note that the oldest known wombat's appendix, once the property of Sir Everard Home, is in the Hunterian Museum, and that John Hunter was known to be engaged on the marsupials just before his death. His work on absorbents shows that the question of disappearance of organs interested him "It may be difficult at first," he writes, "to conceive how a part of the body can be removed by itself, but it is just as difficult to conceive how a part can grow or *add to itself*, which we see daily taking place These are both certain facts A part which was necessary in one stage of life, but which becomes entirely useless in another, is removed It is evident in many animals the thymus gland is removed" It is clear that a knowledge of the mode of disappearance of normal structure should help us in the investigation of the abnormal Amongst the marsupials we notice the disappearance of the thoracic thymus in the wombat, but its good development in the Dasyurus ursinus the closure of the inguinal canal in the male sex of the latter though open in that of the former as well as in koala and the kangaroo the incorporation of the fibula into the tibia as seen in the Macropodidæ, the small relative size of the adrenals in the phyllophagous koala and Trichosurus and the approach of the right along the vena cava to the liver In the case of the opossum (Trichosurus) it may be found approximate to the liver under the capsule or be completely absent In the female the Müllerian ducts, though differentiated into duct, uterus, and vagina, nevertheless open separately into the urino genital sinus Yet from the upper part of the vagina on each side we have given off—beginning as a bend—the median vaginal cæcum which approximates so closely to that of the opposite side that fusion takes place—the two walls forming only an intermediate septum This breaks down so that one central vaginal cæcum or median vagina is formed which, increasing in size, reaches the urino genital sinus to serve for the transmission of the fœtus and remains the vagina of higher types[5] Thus we see formation and atrophy going on in the one order and the triple vagina of the marsupial becomes intelligible when we realise that the design is unification—the lateral vaginæ finally disappearing

Similarly by a study of the vermiform appendix in the wombat nature offers us the clue to the mode of disappearance of that structure in man since we can trace it from the fourth human type to complete disappearance (Fig 4) It may be found as in Phascolomys latifrons quite independent of the ileum with a well defined mesentery, or the mesentery may be only partial and the base be in relation with the termination of the ileum or the mesentery be altogether absent As shown in Fig 3, the appendix finally becomes incorporated into the wall of the ileum and the various grades are seen till in one specimen no appendix is present—the only structure being a firm knob on a shred of mesentery In none of these specimens was there evidence of any inflammation Thus a complete coördinated sequence from the fœtal or infantile type of cæcum to one showing complete disappearance of the appendix is clearly demonstrated In the wombat about the ileo cæcal region a puckering is noted, producing sacculi and depression This is of interest when we consider that close together about the root of the mesentery we have duodenum, duodeno jejunal flexure, transverse colon, and with an interval of only 2 5 cm the ileo cæcal junction This association I regard as being dominated by the right vagus nerve

FIG 4



Ileo-cæcal region Phascolomys mitchelli

Cæcal Region in the Monotremes

When we consider the æons that have passed since the monotremes first evolved we have reason to congratulate ourselves that two, presenting such diversities, have remained—one the Platypus, content to remain in the mountain streams, and the other the Echidna, evolving on land, where the struggle for existence was more *intense*—thus no doubt accounting for the greater size of its brain and the development of convolutions and sulci

The intestinal tract in Ornithorhynchus might be described as a simple canal 5–6 feet in length and characterised by the presence of a slender cæcal tube 30–45 cm from the termination—there being no obvious distinction between the large and small gut, except histologically The cæcum is about 3 cm long, with a distinct mesentery (Fig 5), and, in all cases examined, free, with a well defined lumen continued to its termination The mesentery of the cæcum passes to the intestine on the side nearer the stomach Section of the middle of the cæcal tube shows a well defined circular but narrower longitudinal muscular layer In the submucous layer two nodules of lymphoid tissue are seen The mucous layer shows long convoluted tubular glands lined by cubical cells From the bile duct for a distance of about 3 feet we notice in the intestine tubular glands lined by columnar epithelium and convoluted glands leading up to the base of elongated finger like *projections* with pro cesses resembling villi In the sections in the vicinity of the cæcum no villi are present, the gut on *either side of the cæcum* presenting similar features to it—viz, the long convoluted tubular glands, *except that there is* more lymphoid tissue in the *cæcum* As we *progress to* the cloaca the gut tract takes on more the character of mammalian large gut[6] It seems that the cæcum in the Platypus can be regarded as an extremely primitive organ presenting practically similar structure to that of the surrounding intestine Here apparently nature gives us a clue to future intentions in the creation of an accessory tube capable of expanding according to the needs of digestion, till in a land animal a little higher in the scale (koala) it reaches the enormous length of 8 feet and a circumference of 15 cm What developments took place among mono tremes in the struggle *for a land existence* we are unable even to conjecture In the Echidna the stomach, considerably larger than that of the Platypus may reach a length of 15 cm, and shows the mammalian character and not stratified epithelium as in the latter The total length of the intestinal tract varies *from 9 to 10½ feet, but there is a* macroscopic distinction between large and small intestine, and internally we can distinguish what Professor Keith[7] refers to as cæcal colon, into which the small gut and what I regard as a vermiform appendage (when patent) separately open This latter lies from 30 to 45 cm *from the termination* of the large gut on the dorsum of the commencement of the vestibule Its length varies from 1 5 to 3 5 cm, but compared with the cæcum of the Platypus a great character is variability as regards length, freedom, mesentery, and lumen In 35 per cent the lumen is incomplete, and the appendage could not be distended by compression of the intestinal content A trace of mesentery may be noted at the root of the appendix, but all specimens examined by me but one—which is free—were adherent to the wall of the *ileum*, as in the wombat, *this varying from an adherency* at the commencement up to half the extent In the specimen illustrated (Fig 6)—devoid of mesentery—which was 1 5 cm long, fully two fifths is incorporated with the ileum, the remainder being only a slender rigid stem without lumen I have found retrogression more marked in specimens from New South Wales than from Victoria. One specimen shows the appendix the seat of inflammatory change to which the omentum has been adherent, thus giving us a hint low down in the mammalian scale as to a function of this structure The examination of a typical section shows the muscle coats to be relatively small, though the inner circular is the larger, but the submucous tissue is largely replaced by lymphoid tissue This lymphoid tissue displaces also a considerable amount of the *mucous layer, in the glands of* which columnar and goblet cells are seen The *intestine on either side* is typical large and small mammalian gut, the appendix having the character of the large gut. It is interesting to note in connexion with the disappearance of organs that while both monotremes retain the thymus gland throughout life, this is *more evident in the Platypus In the thymus of a* male Echidna colloidal change has been noted

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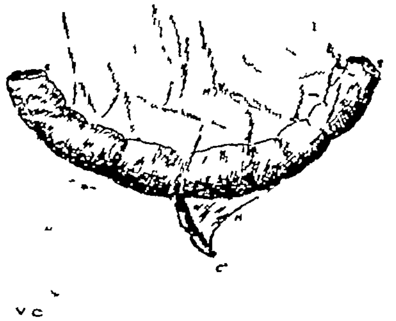
[4] Hunterian Lectures 1885

[5] Proc Linnean Soc N S W 1897 and 1899 Professor J P Hill

FIG 5

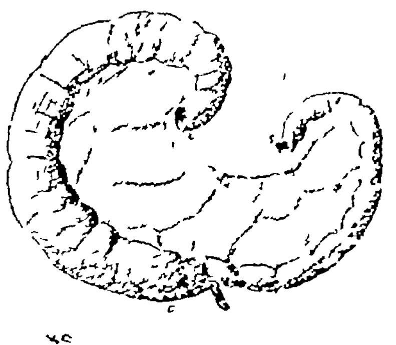


Cæcal region Platypus s Small intestine c large intestine, c' cæcum and mesentery v c

Significance of the Foregoing

That a group of animals—relics from a bygone age —should have remained to throw light on the early development of mammalian life is remarkable, and more so when we consider that in the one order we have a maximum cæcal development (koala), appendicular formation (wombat), and the simple intestinal tube (carnivorous marsupial) It is not without significance that the most adaptable animals are the Echidna—wombat—and wallaby The koala with his enormous cæcum and specialised diet is becoming rapidly extinct, and on the mainland it is almost impossible in Victoria or New South Wales to procure a carnivorous marsupial, while in Tasmania Dasyurus ursinus is scarce and the marsupial wolf has practically dis appeared In Victoria the wombat, so far from needing protection, is actually on the vermin list Nor is this to be wondered at when one compares the physical development of the latter with the Tasmanian devil, in which animal we are struck with the muscle pallor, tendinous change and the large deposit in parts of intermuscular fat If one were asked to designate the perfected physical type amongst the mammalia, the wombat might be unhesitatingly referred to, and Mr Le Souef, director of the Melbourne Zoological Gardens, has frequently commented on the great resistance of this animal to either injury or disease The wombat, far from dispensing with a large gut has actually one reaching the great length of

FIG 6



Ileo-cæcal tract of Echidna s Small intestine c large intestine c' partly adherent appendix

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[6] On embryological grounds however the portion of intestine—about 12 cm long—between the cæcum and the attachment of the colon to the meso-duodenum must be regarded as large gut This portion is swung on the common mesentery The colon beyond is swung on its own mesocolon

[7] Human Embryology and Morphology Arthur Keith third edition

12 to 14 feet In the Macropodidæ this gut may reach 6 to 8 feet, while in the small Echidna 45 cm of large intestine may be met with The carnivorous marsupial, having the "ideal" simple tube with practically no large gut, is the least resistant of all

Biological teaching is plain—it is decidedly against the inutility of the large intestine It is also noteworthy that the ultimate disappearance of the appendix is a coördinate action and not necessarily associated with such frequent inflammation as we are witnessing in the human type As has been stated although a large number of wombats have been examined in no one case has any evidence of inflammation been seen, nor have I yet heard of an instance In the case of man the question arises, What is the factor interfering with proper coördination? Is the leakage dietetic or is it a question of environment or due to the erect posture? One scarcely expects surgery to give the reply

I wish to thank the President and Council of the Royal College of Surgeons of England for the privilege of carrying on research work in the Hunterian Laboratories and Major C V Mackay, R.A.M.C., for valuable help in the preparation of numerous dissections

NOTES ON FRIEDLÄNDER'S PNEUMOBACTERIUM[1]

By A R FRIEL, M D DUB.,
HONORARY PHYSICIAN FOR THE THROAT, NOSE, AND EAR, GENERAL HOSPITAL, JOHANNESBURG

WHEN a patient or an animal is inoculated with a bacterium there result various changes in the action of the serum of this animal *vis à vis* the bacterium and it is to these changes that we are in the habit of paying particular attention The changes which arise in the properties of a bacterium which has been subjected to the action of an immune serum are also worthy of study

Friedländer's pneumobacterium, which is present as a general rule in cases of ozæna, is usually very resistant to phagocytosis Most strains are quite insensitive when tested in the ordinary way of performing an opsonic test Even if the bacteria are exposed to the action of the serum of an uninoculated human patient for some hours, and then centrifuged down and made into an emulsion with a little salt solution and put up with fresh human serum and corpuscles, phagocytosis is very little indeed However, that they can be phagocyted, and in large numbers, can be shown by using the serum of a rabbit which has received two or three intravenous injections of a living or killed emulsion of B Friedländer This serum is so active that the bacteria are agglutinated and opsonised and if left long enough (one hour) in contact with the serum are dissolved To prevent the bacteriolytic action of the serum taking effect it can be heated to 56° C for half an hour

If one volume of B Friedländer be mixed with five or six volumes of inactivated immune serum and allowed to stand for three or five hours at room temperature and if the clump of bacteria which has formed by then be removed and washed in salt solution and planted on a sloped agar culture tube a good growth will have taken place by the following day If this process is repeated for a few days it will be found that a marked change has taken place in the bacterium, and this change is preserved for several further subcultures without further treatment with immune serum The bacterium can now be slightly agglutinated and readily opsonised by ordinary human serum.

To show the extent of this change the following table is of use An opsonic test was performed in the ordinary way, using one volume of an emulsion of Friedländer bacteria, one volume of serum and one volume of corpuscles and incubating for a quarter of an hour —

No		
0	Original strain	1 bacterium in 50 cells
1	Planticated	59 bacteria ,,
2	,,	2 ,,
3	,,	57 ,,
4	,,	51 ,,
5		4
6	,,	60
7	,,	132 ,, ,,
8	,,	177 ,, ,,
9	,,	149 ,, ,,
10	,,	144 ,, ,,

In the first few experiments the serum used for sensitising the bacteria prior to growth on a culture tube was unheated, but in the later experiments it was heated To designate this particular quality or property of bacteria the *descendants* of "sensitised" organisms the word "plantic" is suggested It is derived from the Greek πιαντικός, fat, the idea thought of being fattening an animal previous to slaughter

In treating patients suffering from ozæna I find that to get rid of the Friedländer infection it is advantageous to give the vaccine intravenously, and I am in the habit of using as a dose two millions of a sensitised non sterilised emulsion in salt or distilled water, which is injected into a vein at the bend of the elbow or in the forearm

Sensitisation is effected by using the serum of an inoculated rabbit and then centrifuging the bacteria down and re emulsifying in salt solution or distilled water If agglutination is very marked it is necessary to use distilled water to ensure a homogeneous emulsion The bacteria are counted before mixing with serum as it is not possible to do this afterwards on account of agglutination A dose of two millions or thereabouts is small enough to avoid the production of severe constitutional symptoms such as bad headache and vomiting, and large enough to cause slight malaise It need not be much increased and can be repeated at intervals of three or four days for a few times The improvement in the patient's condition is marked

In seeking for an explanation of why an intravenous injection of Friedländer is superior for purposes of treatment to a subcutaneous one, it may be noted that if a rabbit receives a large dose of these bacteria intravenously and the blood be examined at intervals till no bacteria are detected and then the rabbit be chloroformed and killed and smears made from the liver, kidneys, muscles lungs, and bone marrow, it will be found that the bacteria are in great numbers in the liver cells, some are also to be seen in the kidney, but practically nowhere else It may be that for the production of some immune bodies an internal organ such as the liver is an essential factor and submucous layer two nodules of lymphoid tissue are seen The mucous layer shows long convoluted tubular glands lined by cubical cells From the bile duct for a distance of about 3 feet we notice in the intestine tubular glands lined by columnar epithelium and convoluted glands leading up to the base of elongated finger like projections with processes resembling villi In the sections in the vicinity of the cæcum no villi are present, the gut on either side of the cæcum presenting similar features to it—viz, the long convoluted tubular glands, except that there is more lymphoid tissue in the cæcum As we progress to the cloaca the gut tract takes on more the character of mammalian large gut[6] It seems that the cæcum in the Platypus can be regarded as an extremely primitive organ presenting practically similar structure to that of the surrounding intestine Here apparently nature gives us a clue to future intentions in the creation of an accessory tube capable of expanding according to the needs of digestion, till in a land animal a little higher in the scale (koala) it reaches the enormous length of 8 feet and a circumference of 15 cm What developments took place among monotremes in the struggle for a land existence we are unable even to conjecture In the Echidna the stomach, considerably larger than that of the Platypus may reach a length of 15 cm, and shows the mammalian character and not stratified epithelium as in the latter The total length of the intestinal tract varies from 9 to 10½ feet, but there is a macroscopic distinction between large and small intestine, and internally we can distinguish what Professor Keith[7] refers to as cæcal colon, into which the small gut and what I regard as a vermiform appendage (when patent) separately open This latter lies from 30 to 45 cm from the termination of the large gut on the dorsum of the commencement of the vestibule Its length varies from 1 5 to 3 5 cm, but compared with the cæcum of the Platypus a great character is variability as regards length, freedom, mesentery, and lumen In 35 per cent the lumen is incomplete, and the appendage could not be distended by compression of the intestinal content A trace of mesentery may be noted at the root of the appendix, but all specimens examined by me but one—which is free—were adherent to the wall of the ileum, as in the wombat, this varying from an adherency at the commencement up to half the extent In the specimen illustrated (Fig 6)—devoid of mesentery—which was 1 5 cm long, fully two fifths is incorporated with the ileum, the remainder being only a slender rigid stem without lumen I have found retrogression more marked in specimens from New South Wales than from Victoria. One specimen shows the appendix the seat of inflammatory change to which the omentum has been adherent, thus giving us a hint low down in the mammalian scale as to a function of this structure The examination of a typical section shows the muscle coats to be relatively small, though the inner circular is the larger, but the submucous tissue is largely replaced by lymphoid tissue This lymphoid tissue displaces also a considerable amount of the mucous layer, in the glands of which columnar and goblet cells are seen The intestine on either side is typical large and small mammalian gut, the appendix having the character of the large gut It is interesting to note in connexion with the disappearance of organs that while both monotremes retain the thymus gland throughout life, this is more evident in the Platypus In the thymus of a male Echidna colloidal change has been noted

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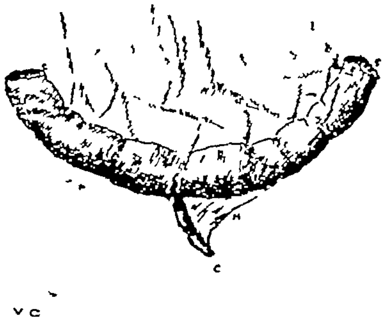
[1] This paper was completed before the outbreak of war Since then further work on plantication has been described in the Reports of the South African Institute for Medical Research

FIG 5



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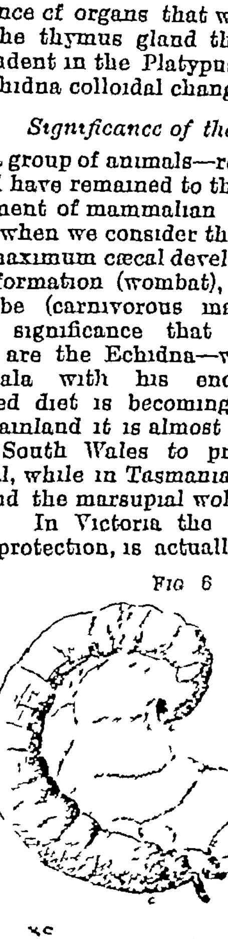

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[7] Human Embryology and Morphology Arthur Keith third edition

GASTROTOMY IN A BABY AGED 6 MONTHS

BY C P G WAKELEY, M.R C S, L.R C.P LOND,
HOUSE SURGEON KING'S COLLEGE HOSPITAL SURGEON R.N

THE patient, an infant aged 6 months, swallowed an open clasp brooch two days before being admitted to hospital. On admission the child was X rayed and the brooch was seen to be situated in the lower third of the œsophagus, it was noticed that the brooch was open with the head of the pin projecting towards the mouth. An attempt was made to close the brooch with the aid of a bronchoscope, but it was pushed down into the stomach, as was verified by a second X ray photograph. The condition of the patient was not very good She had not taken the breast well since the brooch had been swallowed and had vomited at intervals The next day the baby became very collapsed, but her condition improved on subcutaneous saline infusion, however, her temperature suddenly went up to 107·2° F, pulse 192, and respirations 84 It was decided to operate

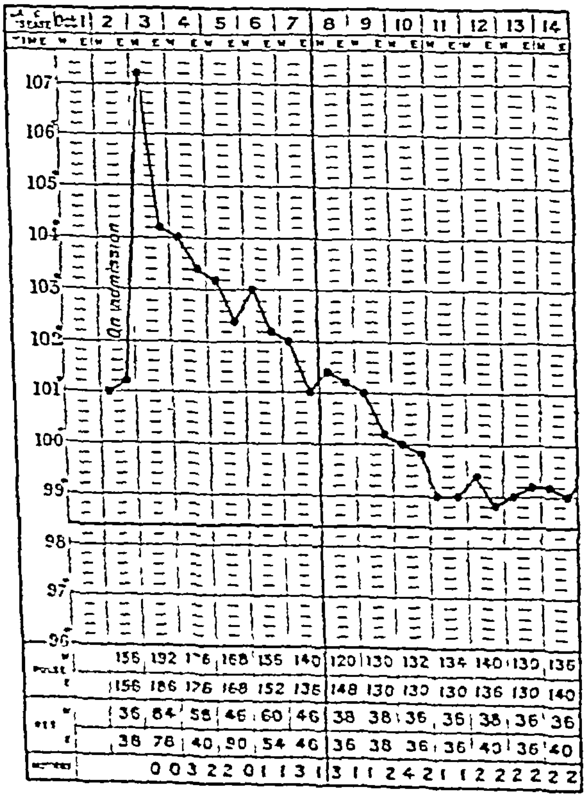
A median incision was made above the umbilicus, the stomach was found and carefully drawn out of the wound, and the rest of the peritoneal cavity packed off with hot sterile towels The pin part of the brooch was seen projecting through the anterior wall of the stomach near the greater curvature There were some isolated flakes of coagulated lymph covering the peritoneal surface of the stomach near the site of perforation. An incision was made over the brooch in the long axis of the stomach and the foreign body removed. The interior of the stomach was very congested and in a semi ulcerated condition The stomach wound was closed by Czerny-Lembert sutures and the abdominal wound closed without drainage The baby was kept in a tent bed for the next five days, and was fed by her mother 12 hours after the operation

A drachm of the following mixture was given every four hours for the first five days after the operation to relieve the ulcerated condition of the stomach Bismuth carbonate, 5 gr, sodium bicarbonate, 1½ gr, spirit of chloroform, 1 minim, tragacanth, in powder, ¾ gr water to 1 fl dr

The child was fed by her mother every four hours night and day, she vomited slightly after the operation The abdominal wound healed well and the little patient left hospital three weeks after the operation with a normal temperature and pulse. The hyperpyrexia on the day of the operation is very interesting, and the child was very fortunate to pull through after such a condition.

I have to thank Mr A Boyce Barrow, not only for kindly allowing me to publish this case, but also for permitting me to perform the operation in his absence

Temperature Chart of Mr C P G Wakeley s Case of Gastrotomy



Medical Societies

ROYAL SOCIETY OF MEDICINE

SECTION OF THERAPEUTICS AND PHARMACOLOGY

Discussion on "Soldier's Heart"

A MEETING of this section was held on Jan 18th, Lieutenant-Colonel W HALE WHITE, R A.M.C (T F), the President, being in the chair The subject under discussion was "Soldier's Heart"

SIR JAMES MACKENZIE, in opening the discussion, said it may well be recognised that the trying life to which a soldier was exposed placed a strain on his heart and found out impaired hearts whether they had a detectable lesion or not During and after the American Civil War it was shown that there was a form of heart trouble to which soldiers were particularly liable—namely, that which was known as "irritable heart." Shortly after the outbreak of the present war soldiers who had been invalided because of heart trouble began to consult him, and at the later stages of the conflict they had appeared in increased numbers When he was asked to take charge of the inquiry into disorders of the heart for the Medical History of the War he had an object in view which would give their researches a profitable aim. Dr R. M Wilson and he had examined 400 cases In 90 per cent. of the cases which had been certified as having heart affections they were found not to be primarily heart cases, so that the principles of treatment applicable to those cases differed widely from those appropriate to real heart failure. There was a good deal of variation in their appearance and symptoms, but they were usually spare, with drawn faces, and showed great vaso-motor instability Sometimes the hands and fingers became pale, while at other times they were thick and red, and the nose became red, sometimes even blue on slight exposure to cold Even after treatment by rest and feeding they were pasty faced and cold and seemed to be scant of breath Asked how they felt a common reply was "Rotten!", they easily became exhausted were breathless on moderate exertion, and frequently there was pain in the region of the heart. Often the frequency of the heart beat was not increased but in some it maintained a rate of *120* per minute. Exercise might cause undue rapidity, and it was in consequence of this excitability that the term "irritable heart had been used A slight increase in the size of the heart was no uncommon in this condition, in acute cases there was some œdema of the legs The mental condition of these patients also varied, depression was not infrequent and often they became generally irritable and restless Some that consequently if the vaccine is given intravenously the production of immunity is more rapid and greater

During the past few years I have given patients on many occasions subcutaneous injections of Friedländer vaccine with no visible beneficial effect, but since I have given the vaccine intravenously I have found great benefit produced Instead of a Friedländer infection being a most refractory one to treat, I find it to respond at once In some cases after a course of treatment it may be difficult or impossible to get a culture of the organism from the nose

It is for ozæna that I have used a Friedländer vaccine, but I would not like it to be gathered from the above that to give an intravenous injection of Friedländer vaccine is all that is necessary to do to alleviate patients suffering from this disease

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

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A CASE OF GENERAL TETANUS FOLLOWING LOCAL TETANIC SPASMS OF INJURED LIMB

BY THOMAS B MOUAT, M D EDIN , F R C S ENG ,
CAPTAIN R.A.M C (T) 3RD NORTHERN GENERAL HOSPITAL, SHEFFIELD HONORARY ASSISTANT SURGEON ROYAL INFIRMARY SHEFFIELD

ON Sept 25th, 1915, the patient (a private in the Black Watch, aged 40) was wounded by a fragment of shell, which caused an extensive lacerated wound of the left upper arm, with compound comminuted fracture of the left humerus A field dressing was applied and tightly bandaged on, to arrest the hæmorrhage from the wound Fourteen hours after being wounded he reached a field ambulance at La Gorgue, where he was given an anæsthetic, the wound was cleaned and dressed, and antitetanic serum was administered subcutaneously He was then sent down to Boulogne, where he remained from Sept 27th to Oct 12th, when he was transferred to the 3rd Northern General Hospital, Sheffield

On admission, on Oct 13th, there was a large and deep lacerated wound on the posterior aspect of the left upper arm, with extensive loss of substance of the triceps muscle The middle portion of the shaft of the humerus was comminuted and necrosed fragments had apparently been removed, as there was a gap of over an inch between the broken up ends of the bone in the base of the wound The musculo spiral nerve was completely divided, and the muscles supplied by it and by the median nerve gave the reaction of degeneration The wound was septic and covered with unhealthy granulation tissue

From the date of admission—Oct 13th—up to Nov 5th, when the limb was amputated, the patient complained of painful spasms in the injured limb These spasms of the muscles of the injured limb were noticed from time to time and they were usually excited by the dressing of the wound A circular amputation was performed on Nov 5th The line of amputation was carried across the wound, which was now apparently clean and covered with healthy granulations The nerves cut across were swollen and œdematous looking, and stood out in a striking manner on the face of the stump —they were pulled down and cut off short

On Nov 7th (two days after amputation) the muscular twitching, which had recommenced in the muscles of the stump, spread gradually to the muscles of the shoulder girdle The patient began to look distressed, was grey looking, and sweating freely The condition was thought to be due to an ascending neuritis, as the muscular twitching before operation had been also ascribed to this On the 8th the flaps of the stump were opened up freely, and the wound showed signs of local infection On the 11th the spasms spread to the shoulder girdle muscles of the opposite side Two hours later the patient developed trismus and head retraction The appearance and symptoms had now become those of an ordinary case of tetanus, with the exception that the spasms were still most marked in the muscles of the shoulder girdle of the injured limb and especially in the pectoral muscles of that side 3000 U S units of antitetanic serum were given intrathecally, after allowing the escape of a similar amount of cerebro spinal fluid, 1500 units were also injected into or about the upper cords of the brachial plexus on the left side Chloral hydrate in 15 grain doses was given four hourly by the mouth On Nov 13th the patient had got steadily worse and was in a very serious condition The general muscular spasms were intense and frequent, and he was unable to take nourishment or to retain nutrient enemata 6000 units of antitetanic serum were injected intrathecally, and apparently with distinct benefit to the patient Gradual improvement set in The septic condition of the amputation stump cleared up and the wound healed The muscular spasms gradually became less severe and less frequent, and ceased completely about Nov 20th The patient now appeared to be convalescent, but in the first week of December he developed a right sided subdiaphragmatic abscess, possibly of pyæmic origin This was opened and drained on Dec 6th The patient died, apparently as a result of this complication, on Dec 30th

The points which appear to be of interest and the conclusions which might be drawn from the above case are as follows —

1 The onset and persistence of the tetanic spasms in the injured limb Several similar cases have been recorded recently[1] In all these it is definitely stated that the patient had received a prophylactic injection of tetanus antitoxin The unusual mode of onset and progress of these cases is apparently due to the fact that a certain amount of central resistance to the spread of the toxin had been set up by the prophylactic injection of tetanus antitoxin A sufficient interval had, however, elapsed before its administration to permit of a local spread of the toxin into the efferent nerves of the injured limb, which caused the onset and persistence of the local symptoms

2 The further absorption or spread of the toxin which followed the operative traumatism of the injured area was sufficient to overcome the increased general resistance which had resulted from the prophylactic injection

3 Definite amelioration of the symptoms followed the intrathecal injection of a large dose of tetanus antitoxin, 6000 U S units, whereas a dose of half that amount appeared to have little effect

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[1] Lieutenant Colonel R D Rudolf Tetanus like Spasm Localised to the Wounded Limb THE LANCET Nov 13th 1915 p 1084

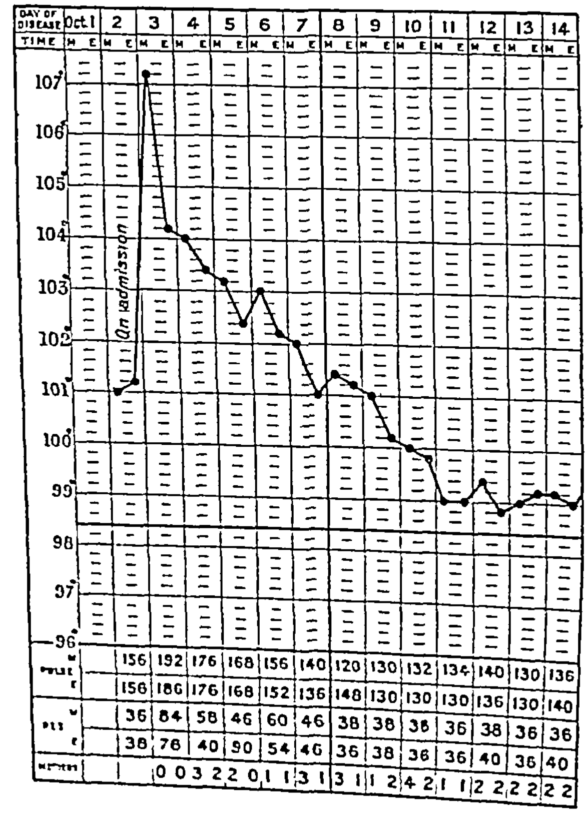
GASTROTOMY IN A BABY AGED 6 MONTHS

BY C P G WAKELEY, M R C S , L.R C P LOND ,
HOUSE SURGEON, KING S COLLEGE HOSPITAL SURGEON R.N

THE patient, an infant aged 6 months, swallowed an open clasp brooch two days before being admitted to hospital On admission the child was X rayed and the brooch was seen to be situated in the lower third of the œsophagus, it was noticed that the brooch was open with the head of the pin projecting towards the mouth. An attempt was made to close the brooch with the aid of a bronchoscope, but it was pushed down into the stomach, as was verified by a second X ray photograph The condition of the patient was not very good She had not taken the breast well since the brooch had been swallowed and had vomited at intervals The next day the baby became very collapsed, but her condition improved on subcutaneous saline infusion, however, her temperature suddenly went up to 107 2° F , pulse 192, and respirations 84 It was decided to operate

A median incision was made above the umbilicus, the stomach was found and carefully drawn out of the wound, and the rest of the peritoneal cavity packed off with hot sterile towels The pin part of the brooch was seen projecting through the anterior wall of the stomach near the greater curvature There were some isolated flakes of coagulated lymph covering the peritoneal surface of the stomach near the site of perforation An incision was made over the brooch in the long axis of the stomach and the foreign body removed The interior of the stomach was very congested and in a semi ulcerated condition The stomach wound was closed by Czerny Lembert sutures and the abdominal wound closed without drainage The baby was kept in a tent bed for the next five days, and was fed by her mother 12 hours after the operation

Temperature Chart of Mr C P G Wakeley's Case of Gastrotomy



A drachm of the following mixture was given every four hours for the first five days after the operation to relieve the ulcerated condition of the stomach Bismuth carbonate, 5 gr , sodium bicarbonate, 1½ gr , spirit of chloroform, 1 minim , tragacanth, in powder, ½ gr water to 1 fl dr

The child was fed by her mother every four hours, night and day, she vomited slightly after the operation The abdominal wound healed well, and the little patient left hospital three weeks after the operation with a normal temperature and pulse The hyperpyrexia on the day of the operation is very interesting, and the child was very fortunate to pull through after such a condition

I have to thank Mr A Boyce Barrow, not only for kindly allowing me to publish this case, but also for permitting me to perform the operation in his absence

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF THERAPEUTICS AND PHARMACOLOGY

Discussion on "Soldier's Heart"

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", they easily became exhausted, were breathless on moderate exertion, and frequently there was pain in the region of the heart Often the frequency of the heart beat was not increased, but in some it maintained a rate of 120 per minute Exercise might cause undue rapidity, and it was in consequence of this excitability that the term "irritable heart' had been used A slight increase in the size of the heart was not uncommon in this condition , in acute cases there was some œdema of the legs The mental condition of these patients also varied, depression was not infrequent and often they became generally irritable and restless Some were content to lie in bed and brood over their woes A condition somewhat akin to this was found in people who were recovering from an exhausting illness, or who had had a severe surgical operation, or had endured prolonged and anxious labour with but little sleep In most of the cases of that kind in this war there was a history of an illness preceding the breakdown, they were in the trenches, and felt well until one day which they remembered They were found to have a raised temperature and were given a few days' leave but on returning they still felt far from well, and after a few weeks of hard trench life they collapsed Sometimes they had had diarrhœa, sometimes measles, but mostly the history pointed to a form of infection Many of the patients recognised the gradual onset of the trouble In some a history of infection could not be gleaned, but there had been a strenuous life He related the history of one case as an example, the patient —who had been operated upon for appendicitis—having been able to snatch only short periods of sleep in the day time, with none at night, for several consecutive days, resulting in a feeling of illness and pain over the heart Some who had never been to the front and had not experienced excessive bodily or mental strain had shown the same symptoms following some febrile affection The "soldier's heart" he considered to be a sign of general exhaustion, the circulatory symptoms being but part of the general manifestation These differed from the cases in which a disease-producing organism had invaded the heart itself In some cases there might be doubt as to whether the condition might not be due to infection of the heart itself Judgment must be deferred until the subsidence of the fever If the temperature persisted for some weeks and no source of infection could be found, then the idea of infection of the heart became strengthened In the poisoned heart the first sign was usually a sense of exhaustion often supposed to be a sign of cardiac inefficiency, but it owned a different mechanism People suffering from toxic influence had the central nervous system affected, as shown by a feeling of illness and depression and they had irritability of temper, vaso-motor disturbance, and extra susceptibility of the peripheral circulation Chilliness persisted after a cold bath, but at times heat flushings passed over the whole body There was also a feeling of discomfort, sometimes even of pain, over the heart The persistence of pain when the patient kept at rest he regarded as strongly suggestive of poisoning "Soldier's heart" was due to trouble in other systems as well as the cardiac, such as the central nervous system It was unfortunate that the regulations required that each sick soldier should be certified as suffering from a definite complaint, because the hurry of examination did not permit of a careful study of all the cases A recognition of the nature of the illness would at once suggest the appropriate treatment—e g, if microbial efforts would be made to increase the patient s resistance, if poison, attempts would be directed to eliminating the poison The mental condition must also be taken into consideration Too much rest in bed should be avoided for irritable hearts, the heart, like other organs, was benefited by judicious exercise The aim should be to help the body as a whole, and to this end the provision of enjoyable games did much the patient being enjoined not to continue after the interest flagged or he felt tired This advice was safe in all obscure or doubtful heart conditions. Grievous injury was sometimes done to the mind of the soldier who was told he was suffering from an affection of the heart which was of grave importance

Dr R M WILSON gave a historical review of the subject and expressed agreement with the conclusions of Sir James Mackenzie with whom he had been working

Dr F J POYNTON referred to the heart affections, such as pericarditis and endocarditis, produced experimentally from streptococci He did not think a heart which had once thoroughly broken down in training would ever be strong enough again to allow its possessor to be fit for military service The factor of infection at the present moment was of the highest importance owing to the prevalence of dysentery and other gastro-intestinal disorders In some cases of "soldier s heart" he thought the condition was due to the development of the heart not having kept pace with the rest of the body, hence it failed when strain was put upon it. He had never been able to regard the heart as quite dissociated from the general nervous system, and one day it might be recognised how important it was to safeguard tall strong youths in this regard, when steps would be taken to save them from early strain

Dr R W MICHELL spoke from personal experience of the conditions at the front, and related a number of examples of the condition under discussion which had come before him Various forms of irritability were seen, including the passing of large quantities of urine, as much as three quarts at a time He fully agreed with what had been said as to the influence of toxæmia

Dr PHILIP HAMILL expressed his agreement with the opener, and related a number of interesting cases He fully agreed that the psychical factor must be treated before recovery could be expected But, apart from the latter, his view was that the hearts of many of these cases were permanently damaged, and if particulars were carefully taken and the cases followed up, it would be for the next generation to draw conclusions as to the precise nature of the disorder

Dr FLORENCE STONEY (who has been working at Fulham Military Hospital) declared that irritable heart was only one symptom of Graves's disease, and that this condition of heart was not met with by itself Her method of treatment was to reduce the size of the thyroid gland, by means of X rays, to the desired extent, and so affect favourably the heart condition, and she had been engaged upon that method for eight years with encouraging results Exophthalmic goitre she regarded to be at the root of the whole affection

Dr BEZLY THORNE pleaded for the use of the Nauheim treatment in cases of "soldier s heart," as it had yielded him excellent results

Dr ALEXANDER MORISON and Dr T R BRADSHAW also spoke, and Sir JAMES MACKENZIE replied

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ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF MEDICINE

The Electrocardiograph —Cases connected with Liver and Biliary Passages

A MEETING of this section was held on Nov 12th Professor J A LINDSAY, the President being in the chair

The PRESIDENT read a paper, illustrated by diagrams, tracings, and a lantern demonstration, upon the use of the Electrocardiograph. He said that amongst the recent advances in medicine an important place must be assigned to the development of instrumental methods of observation in connexion with the heart in health and disease The polygraph and the electrocardiograph had opened up a new chapter in this field and had rendered many former observations more or less obsolete While too much importance could not be assigned to a careful observation of the whole clinical complex instrumental methods added new and important facts The phenomena of disease were thus presented at first hand, and the duty of the clinician was that of interpretation These methods were of special value in certain departments where the difficulties of diagnosis were formerly greatest, as for example in the differentiation of the cardiac arrhythmias, the detection of heart-block and of auricular fibrillation, and in general in the recognition of myocardial changes He briefly described the structure of the electrocardiograph and the methods of employing the instrument, as well as the electrical phenomena of the normal heart The chief applications of the instrument in disease were then dealt with, the following conditions being passed under review—viz. heart block auricular fibrillation auricular flutter, myocardial degeneration extrasystoles, and hypertrophy of the ventricles Electrocardiography was probably destined to throw light upon the action of drugs, especially that of the cardiac remedies of the digitalis group It could not be expected to throw direct light upon valvular lesions Its message was from the cardiac musculature, not from the cardiac valves None of the usual valvular lesions had a precisely distinctive cardiogram, though that of mitral stenosis could sometimes be recognised. Hence, a normal electrocardiogram was no guarantee of a normal heart But valvular lesions sooner or later produced muscle changes, and these wrote their story upon the cardiogram. In conclusion the speaker deprecated any exclusive reliance upon instrumental methods The final test of cardiac sufficiency or insufficiency must remain the appeal to experience and to clinical observation —Professor W H. THOMPSON referred *to the numerous difficulties* in *the employment* and interpretation of the method, but expressed his belief that time would elucidate the majority of these. He pointed out that while the P – R distance is important, the T wave is even more so as showing whether ventricular contractions were dropped or not A large amount of experimental work had been done in Belfast by Dr Gibson and Professor Milroy with particular *reference to this* T wave —Dr J LITTLE also spoke —The PRESIDENT, in replying said that practically all the tracings had been obtained in the Victoria Hospital Belfast Instrumental methods could never replace trained clinical observation, but they had one most important quality—namely the elimination of the personal factor

Sir JOHN MOORE reported on three cases of more than usual interest in the wards of the Meath Hospital, all connected with the liver and biliary passages, and illustrating the value of surgical help The first case was that of a time expired soldier, aged 27 years, who had served in India for six years In August 1914, he came back to France and was severely wounded three months later his right tibia being fractured. A year before he left India he apparently had suffered from amœbic dysentery Two months before admission to hospital he again suffered from pain in the right side, followed by vomiting and diarrhœa The liver was found to be enlarged and tender on pressure Mr H Stokes operated in the belief entertained by him and by the speaker that the man had hepatic abscess The liver was the seat of an acute inflammation but no pus was found. Marked improvement followed on the operation The medical treatment consisted in the hypodermic injection of emetine hydrochloride in full and repeated doses The man made an excellent recovery The other two cases were instances of biliary colic, relieved by operation. In the former the number of stones (92) was remarkable, in the latter case Mr R. Lane-Joynt on operating, found that the gall bladder was obliterated This was a complicated case from its nature and by the development of a duodenal fistula after the operation But in 10 days the patient began to amend—steady improvement set in ending in a full restoration to health Two stones of considerable size were extracted from the common bile-duct

WEST LONDON MEDICO-CHIRURGICAL SOCIETY —A clinical meeting was held in the society's rooms, West London Hospital on Jan 14th Dr Leonard C T Dobson the President, being in the chair —The following cases were shown —Dr F S Palmer 1 Functional Monoplegia due to shock from bursting shell, soldier aged 24 2 Complete Mutism and Deafness due to shock from bursting shell soldier aged 28 Steady and uninterrupted progress under a system of re-education, without hypnosis —Major W McAdam Eccles 1. Abnormal Venous Channel in a male patient dilatation of the anastomosis between the two superficial external pudic veins with imperfect descent of the left testis In reference to the case of caput Medusæ shown by him at the clinical meeting held on Nov 5th Major Eccles described the abnormal conditions revealed by laparotomy of some of the intra abdominal veins 2 Two cases of Femoral Hernia in Man —Mr O L Addison Malignant Glands of Neck, male, aged 60, almost total disappearance under massive doses of X rays heavily filtered for a period of about three months at the rate of two or three a week.—*Dr E. Arthur Saunders* 1 Severe Rickets and Tuberculosis, male 5 years 2. Subacute Rheumatism, multiple rheumatic nodules in occiput (temporal regions) knuckles elbows wrists ankles knees flexor tendons of wrists sternum scapulæ and vertebræ, male 11 years —Mr N Bishop Harman 1. Case showing the effects of Chronic Blepharitis said to have followed measles, male aged 32 This was described by Mr Harman as being one of the worst cases of chronic blepharitis which he had ever seen 2 *Iridodialysis* caused by air-gun injury female 10 years —Dr George Pernet 1 [illegible] of Trunk and Limbs, male 6 years 2 Morphœa Scleroderma, outer sides of legs, female, 14 years —The following skiagrams were shown by Dr Reginald Morton —Cases under the care of Dr Saunders 1 Absorption and Collapse of Fourth and Part of the Fifth Lumbar Vertebræ following paratyphoid fever, male, 30 years 2 Large Aneurysm of the Arch of the Aorta with protrusion of the sternum (two skiagrams) Cases under the care of Mr Addison 1. Myeloid Sarcoma of Upper Ends of Tibia and Fibula female, 43 years 2 Old case of Tuberculous Disease of the Hip-joint, male, 26 years 3 Large Branched Calculus in the Pelvis, and a Round Calculus in the Cortex of the Left Kidney, female, 36 years Case under the care of Mr H. S Souttar Tuberculous Disease of the Hip-joint with Dislocation, male, 8 years Case under the care of Mr H Tyrrell Gray Shrapnel Bullet in Side of Neck, which entered in the region of the scapula of the opposite side, male 30 years Case under the care of Mr E. D McDougal Shattering of Upper Part of Humerus by Shrapnel showing curious formation of new bone —The President, Major Eccles, Dr Saunders, Dr Seymour Taylor, Dr Harold H. Sanguinetti Mr Addison, Dr S D Clippingdale Mr Rowland Pollock and Dr Morton took part in the discussion on the various cases

Reviews and Notices of Books.

Veterinary Anæsthetics

By FREDERICK HOBDAY, F R C V S F R S E London Baillière, Tindall, and Cox 1915 Pp 86 Price 5*s* net

Professor Hobday, who is at present serving as a major in the Army Veterinary Corps in France, gives a useful account of anæsthetics and narcotics for animals and birds, studied especially from the point of view of the general veterinary practitioner Commencing with the selection and practical application of anæsthetics for the different species of animal patients which the veterinary surgeon of the present day is called upon to treat, particular attention is drawn to the precautions necessary to ensure the safety of the individual patient, and in this respect the veterinary surgeon has many difficulties to contend with Only rarely can he obtain the assistance of a skilled anæsthetist, and thus be set free to attend exclusively to his operative work Hence it is interesting to note to what use narcotics are put, and especially the use of morphia for operations on the dog, the peculiar idiosyncrasy of this animal for the drug rendering it a most apt subject Doses which would be fatal to a man of 10 or even 15 times the body-weight act merely as a narcotic in the dog, and are sufficiently deadening to pain to enable even very severe operations to be performed with safety On the horse and cat on the other hand, morphia has an excitant and delirant effect Horses and dogs, according to the author, take chloroform very well, and numerous illustrations are given of apparatus and inhalers used for dosimetric administration. By these, according to statistics given, the proportion of chloroform to air can be regulated to a nicety, and several of them we recognise as having been brought before the members of the Anæsthetics Section of the Royal Society of Medicine, and the recent International Congress of Medicine The general anæsthetisation of the bird, especially the ostrich and the common fowl, is fully dealt with, chloroform being again preferred The chapters on local anæsthesia deal with all the local anæsthetics in general use and mention the precise limit of dose which can be employed with safety The final chapter is devoted to the intraspinal method

LIBRARY TABLE.

Medicine and Meditation Occasional Writings by Alex Lewers, L R C P Lond, D P.H Lond, Senior Honorary Physician to St Vincent's Hospital, Melbourne, and Lecturer on Clinical Medicine, St Vincent's Medical School Melbourne Ford and Son 1915 Pp 127—In this little volume 57 short articles of medical interest which have already been published in various journals are collected together by the author They cover a wide range of topics, for they deal with euthanasia, electricity, drink cures, syphilis, phrenology, and eugenics—to mention a few of the subjects taken at random, while matters which are likely to receive increased attention in the future, such as physical culture, school cooking, and the inspection of school children, are also included Dr Lewers has a plain straightforward style, and as a general rule his judgments are marked by breadth of view and proper caution Sometimes the fact that his judgment is based on the consideration of circumstances as they occur on the other side of the globe obtrudes itself abruptly For example, he makes the sweeping statement that "the consumptive of to day is viewed with as much popular distrust as the leper of the Middle Ages, and the still growing dread is not lessened by the fact that the results of treatment have not shown that any more definite control of the disease has been established" Surely in England, at any rate, the public know now that much phthisis not only can be, but is being prevented With regard to the statement that Shakespeare's recognition of genius as a physiological abnormality led him "to remark on the near alliance between madness and great wit," we think this is an old slip Anyhow, the familiar line, "Great wits are sure to madness near allied," occurs in *Absalom and Achitophel* and not in *Hamlet*, though Shakespeare's tragedy is often searched for the quotation Dr Lewers has provided us with a very readable and useful little volume

Japan By Pierre Loti Translated from the French by Laura Ensor Pp 334 Price 7*s* 6*d* *Jerusalem* By Pierre Loti Translated from the French by W P Baines Pp 212 Price 7*s* 6*d* net London T Werner Laurie 1915—These translations of two well known works of the distinguished French sailor who writes under the pseudonym of Pierre Loti are part of a series of his works which is being published in English guise with appropriate illustrations The work entitled "Japan" is, of course, a translation of the well known romance "Madame Chrysanthème," which profoundly amused and somewhat scandalised literary circles more than a quarter of a century ago The story has in its English form more of the delicate charm of the original than might have been expected, and this is assisted by profuse illustrations by Rossi and Myrbach, which have caught the very spirit of the author Some day or other, no doubt, Admiral Viaud s book will form an interesting historical note, so enormously does the Japan of to day differ from the Japan where he spent that long ago summer, and where the episode occurred round which the story is grouped

"Jerusalem is a literary and poetical guide book, and the same difficulties do not arise in its translation which must have beset the translator of "Japan.' Pierre Loti s book on the cradle of Christianity claims only to be a description of its present day ruins and desolation, and of the influence of the sacred place on a convinced unbeliever The religious musings and emotions have not the ring of actuality, while the verbal pictures show Pierre Loti to have revelled in the scene But it is curious to be reading a description of the old city as derelict and no longer of any account save as a centre of pious pilgrimages at the time when we hear of it in the journals as an important station on the Turkish lines of communication or advance Anything like desertion must be at complete variance with its present aspect

We recommend both these translations to our readers very sincerely Pierre Loti is a great man of letters, and the poetry and charm of his writings come out in the English version to an extent which we think will be a little surprising to those who have read his books in the original We wonder whether altered circumstances have changed his views of the English

JOURNALS

The Indian Journal of Medical Research Vol III, No 2.—The first contribution to this number is by Lieutenant Colonel W D Sutherland, I M S, Imperial serologist, Calcutta, and is in the form of a note on 2643 medico-legal cases, in which 6566 articles suspected to be blood stained were examined during a period of 31 months Of the 2643 cases in question 1650 related to charges of murder, 101 to culpable homicide, 87 to attempted murder, 284 to assault, and 189 to rape Of the total 6566 suspected articles submitted for examination 1380 were found to be free from blood Colonel Sutherland remarks that the wiles of the Indian criminal, his friends and his representatives, the intense longing that is felt by many a villager to get his enemy into trouble at whatever cost, the ingenious attempts of the unchaste village maid to pose as the victim of a brutal and lustful man, may all be gathered from the summaries of some of the cases that have come under notice—Major S R Christophers, I M S, and Dr K R K Iyengar discuss in a joint paper the effect of hæmolytic drugs, toxins, and antisera upon the hæmolytic point (so-called isotonic point) and the association between this point and hæmoglobinuria Major Christophers also furnishes two other articles—one on the pilotaxy of anopheles and the other on the male genitalia of anopheles, illustrated by plates—Some notes on Sumatrian culicidæ are contributed by Dr A. T Stanton bacteriologist of the Institute for Medical Research Federated Malay States and in continuation of his special studies on cholera Major E D W Greig I M S gives an account of some experiments he made on the production of gall stones in rabbits following intravenous inoculations of cholera like vibrios isolated from the stools of cholera patients and from water—Major A G McKendrick I M S, director of the Pasteur Institute of India, Kasauli supplies two articles the first dealing with the epidemiological significance of repeated infections and relapses and the second with the epidemiological significance of splenic enlargement in malaria.—Another instalment of their special studies on the treatment of snake bite is contributed by Captain Hugh W Acton I M S and Captain R Knowles I M S and this deals with the present position of antivenene therapy These experts express the opinion that with the remedies at present available for the treatment of bites from poisonous snakes if properly applied it should be possible to save a large percentage of the cases which now prove fatal The general lines of procedure recommended by them are (1) to apply a firm ligature immediately, (2) to impregnate the whole area of the bite with a hypodermic injection of a strong solution of gold chloride, and (3) to inject from 100 to 200 c.c of antivenene intravenously, if the biting snake be suspected to have been a cobra or Russell s viper If symptoms of venom intoxication come on further and even larger injections of antivenene should be given intravenously With sera concentrated ten times a dose of 20 to 60 c c should save every case of cobra bite—The last paper in this number of the journal is a short one by Mr J L Mitter entomological assistant at the Central Research Institute Kasauli on the occurrence of Stegomyia maculosa at Kasauli and its breeding place

ROYAL MEDICAL BENEVOLENT FUND

AT a meeting of the committee held on Dec 14th, 1915, 46 cases were considered and £448 granted to 40 of the applicants The following is a summary of the cases relieved —

Widow aged 41 of L.R C P Edin who practised at Edmonton and died in 1910 At husband's death applicant was left practically unprovided for with two children now aged 8 and 10 years Has managed to earn a living until the war commenced by literary work Has friends in Los Angelos who recommend her to go there as the prospects look good for herself and children Help required towards her passage &c The Fund granted £20 and the Guild also provided clothes. The Professional Classes War Relief Council coöperated with the Fund and made a grant of £10 —Daughter aged 27 of L.R C.P Irel who practised in Ireland and died in 1895 Applicant's health was undermined through the long nursing of her mother who has recently died The Fund made a small grant a little time ago to enable her to take a short holiday A further grant of £2 was made —Widow aged 45 of M R C S Eng who practised at Gravesend and died in January 1915 Applicant was left with three daughters ages 13 to 21 and one son, aged 20 who is abroad and whose health is broken down. Applicant required a little help towards the education of the daughters to earn their own living Owing to the war it was impossible to sell the practice to advantage at present Applicant voted £10 and the case referred to the Guild with a view of helping with the education of the girls —Daughters (aged 62, and twins 45) of M D Edin who practised in London and died in 1873 Applicants immediate trouble caused by the death of mother who had a life interest in some property They endeavour to make a living by taking in paying guests and doing needlework but have not been very successful of late Voted £10 and referred to the Guild —Daughter aged 44 of M.R C S Eng who practised in South Wales and died in 1872. For many years managed to earn a living as a laundress, but recently has developed cancer which has quite incapacitated her from working Voted £12 in 12 instalments and referred to the Guild.—Widow aged 45 of M R C S Eng who practised at Beccles, where he had only recently established himself and died in January 1915 Applicant is trying to earn a living by taking in paying guests but owing to some extent to her house being near the East Coast she has not been very successful but has prospects of improvement. Voted £10 —Daughter aged 58 of M D Dub who practised in the Isle of Man and died in 1882. Applicant's money was badly invested and she lost all She is now an invalid suffering from rheumatoid arthritis Highly recommended by the Liverpool Branch of the Guild Voted £5 to the applicant through the Liverpool Branch of the Guild —Daughter aged 49 of M D Lond who practised in London and India and died in 1873 Applicant was able to supplement an income of about £20 per annum by teaching French, but owing to ill health is unable to continue this work Relieved twice £10 Voted £10 in two instalments —Widow aged 51 of M D Dub who was in the Royal Army Medical Corps and died in 1905 Applicant lives in a flat rent free and has a small army pension In addition to her four daughters ages 21 to 26 she has her mother partly dependent on her None of the daughters are strong nor have they been trained for work. They have recently been training for nurses Voted £5 and referred to the Guild —Daughter aged 55, of L.R.C S & P Glasg who practised at Glasgow and died in 1883 Applicant managed to earn a living before the war by teaching music, but since October 1914 has practically lost all her pupils Only permanent income £4 12s per annum and lives in own house. Voted £12 in 12 instalments Recommended by the Glasgow Branch of the Guild —Daughters, ages 44 50 55 of M R C S Eng who practised at Bodmin and died in 1912. Until father's death they were all able to live comfortably together as father had a life interest in some property Only income of the daughters £5 each per annum Voted £18 in 12 instalments jointly and referred to the Guild —Widow aged 73, of M R C S Eng who practised at Rye and died in 1891 Applicant has cataract in both eyes and unsatisfactory health Has two daughters, both married. Lives in own house but has only very limited means Voted £12 in 12 instalments —Daughters ages 64 66 of M D Leyden who practised in London and died in 1858 Applicants only certain joint income £28 which they supplemented by taking in boarders Owing to the war the boarders have entirely ceased and they are in difficulties Helped by the Fund 21 years ago. Voted £12 and the elder sister recommended for an annuity —Widow aged 63 of M D Dub who practised at Cambridge and died in 1904 Applicant had managed to live by taking in resident pupils but owing to the war has practically lost them all Rent paid by relatives but now in temporary difficulties owing to the loss of above and illness Voted £10 and referred to two other organisations for help —Widow aged 58, of L.S A Lond who practised at Bournemouth and died in 1913 Applicant was left totally unprovided for Has a pension of £26 per annum from another society and during the last year has only received £5 from lodgers Health very unsatisfactory and unable to let more rooms Relieved once £12. Voted £12 in 12 instalments —Daughter aged 53, of M R C S Eng who practised in London and died in 1880 Applicant's health is very bad and she is quite unable to work Lives with a widowed sister who finds home but cannot do more Relieved six times £51 Voted £10 in two instalments —Daughter aged 58 of L R C P Lond who practised at Brierley Hill and died in 1872. Applicant suffers from chronic ill health and recently fractured her ankle Only income an annuity of £25 from another charity and a little help from friends Relieved eight times £53 Voted £12 in 12 instalments —Widow aged 54 of M R C S Eng who practised at Yelverton and died in 1903 Applicant endeavours to make a living by taking in boarders but does not get sufficient to make it pay Relieved nine times £107 Voted £12 in 12 instalments —Widow aged 42, of M R C S Eng who practised in North Wales and died in [illegible] Applicant was left quite unprovided for with two children now aged 6 and 9 years. Has free rooms in return for services and makes a little by selling goods on commission but not sufficient to meet expenses Relieved four times £[illegible] Voted £10 in two instalments —M R C S Eng L.R.C P Lond aged 49 who practised in Lancashire and abroad. Applicant is married with three children now aged 9 14 16 years and he has become totally blind Wife and children are cared for by relatives The applicant is now studying massage in London, and hopes shortly to be qualified and earn his living Only income £12 per year from a charity for the blind and a little from friends Relieved once £10 Voted £10 and referred to the Guild —Daughter aged 49, of M R C S Eng who practised at Gillingham and died in 1911, and was for some years an annuitant of the Fund Through ill health the applicant is not able to earn her living and receives her food in return for looking after a child during the day Has to pay rent for her room Relieved twice £17 Voted £12 in 12 instalments through the Guild —Widow aged 64 of M B Glasg who practised in South Wales and died in 1913 Applicant's only income £16 per year and her three children all married with families unable to help Health very bad Relieved three times £24 Voted £12 in 12 instalments.—Daughter aged 56 of M R C S Eng who practised at Rotherhithe and died in 1879 Applicant is suffering from chronic glaucoma, which prevents her from working as a nurse Only income from investments and friends £24 per year Relieved seven times £67 Voted £12 in 12 instalments —Widow aged 59 of L R C S Edin who practised on the West Coast of Africa and died in 1907 Applicant has two sons who are abroad and unable to help and one daughter aged 36, who is an invalid lives with her mother Applicant has recently broken her ankle and is incapacitated from doing any work Only income a little occasional help from friends Relieved four times £48. Voted £12 in 12 instalments —L.R C.P Edin aged 58, who practised at Old Kilpatrick N B is suffering from spastic paralysis Lives with a sister who has to earn a living by taking in boarders Only income is that given by the Fund Has one son aged 19 who is studying for a dentist and his fees being paid by the Fund and Guild. Relieved 11 times £132 Voted £12 in 12 instalments —Widow aged 56 of L S A Lond who practised at Islington and died in 1905 Applicant was left with two sons who helped to keep her The elder one however died in March 1915 and the other joined the army and has been missing since April 1915 She is now keeping house for two young nephews Relieved eight times £128 Voted £18 in 12 instalments.—Daughter aged 47 of M D Edin who practised at Southampton and died in 1886 Applicant's only income is £25 per annum from a charity and friends and is suffering from chronic neuritis and quite unable to continue her work as a nurse. Relieved twice £14 Voted £12 in 12 instalments —Daughter aged 71 of M.D Edin who practised in Somersetshire Applicant lost all her income through unfortunate investments Used to earn a little by painting but cannot obtain any commission at present. Relieved three times £42. Voted £3 and referred to the Guild for report —Widow aged 66, of L R C P Edin, who practised at Port Carlisle and died in 1893 Applicant was left quite unprovided for with five children none of whom are able to help Has recently had breast removed for cancer and otherwise health very bad Elected to an annuity of £10 by another charity this year Relieved twice £24 Voted £12 in 12 instalments —Widow aged 60 of M R C S Eng who practised in Liverpool and died in 1895 Applicant is a trained nurse, but in consequence of ill health is not always able to work. Relieved six times £42. Voted £12 in 12 instalments —Daughter aged 57 of M.R C S Eng who practised at Hammersmith and died in 1908 Owing to ill health the applicant is unable to obtain employment. Has no income but receives occasional gifts of clothes and food from friends, and help from the Guild Relieved eight times £104 Voted £18 in 12 instalments —Widow aged 54 of M R C S Eng who practised in Wiltshire and Devonshire and died in 1914 Applicant was left unprovided for at husband's death who was an annuitant of the Fund Receives a little help from friends but not sufficient to keep her and unable to obtain suitable work Relieved three times £16 Voted £12 in 12 instalments —Widow aged 56 of L.S A. Lond who practised at Limehouse E and died in 1894 Applicant was left unprovided for with two daughters now aged 21 and 23 years but neither living with their mother or able to help much Applicant's health very indifferent and only able to earn a little by needlework. Relieved 10 times £58 Voted £12 in 12 instalments —Widow aged 48, of M R.C S Eng who practised at Hexham and in London and died in 1903 Applicant dependent on boarders which is very precarious and what she can obtain by needlework. Has four step-children and one daughter of her own who lives with her but earns very little in consequence of bad sight Relieved six times £72. Voted £12 in 12 instalments and referred to the Guild —Daughter, aged 69 of M R C S Eng who practised at Cheltenham and died in 1879 Applicant's health was very bad suffering from rheumatism and defective sight Only income, two small annuities and not quite sufficient to live upon Relieved twice £24 Voted £12 in 12 instalments —Widow aged 61 of L R C P Edin who practised in Dublin and died in 1900 Was left unprovided for but was helped a little by son who has recently died Also earns a little by needlework Health now very indifferent Relieved three times £30 Voted £10 in two instalments.—Daughter aged 69 of M R C S Eng who practised in London and died in 1875 For 40 years earned her living as a governess mainly abroad and for the last ten years in Russia, and her life's savings were in a bank in Berlin and she has not been able to obtain any of them Has recently been able to earn a little by sewing but not enough to live upon Relieved once £12. Voted £12 in 12 instalments and referred to the Guild —Daughter aged 60 of M R C S Eng who practised in London and died in 1877 Applicant's only certain income a small pension from another charity Before the war she earned a little by teaching music Health has been very unsatisfactory of late. Relieved once £10 Voted £10

The claims on the Fund show a constant increase month by month At the last meeting the Committee had a record number of applications and only a balance of £42 to meet them with Grants were made to the extent of £448 To meet this deficit the reserves which had already been reduced by £500 will have to be further drawn upon Unless further support is quickly forthcoming the Committee will have no choice but to restrict its operations and that in the face of ever growing claims Subscriptions may be sent to Dr Samuel West, the honorary treasurer, at 11, Chandos street, Cavendish square, London, W

NATIONAL HEALTH INSURANCE

O Neill v Middlesex Insurance Committee

IN this action Dr B O Neill asked for an injunction to restrain the defendants from surcharging him £323 in respect of alleged excessive prescribing in his panel practice, and also for a declaration that the defendants were not entitled so to surcharge him, and that Regulations 40 and 51 of the Medical Benefit Regulations were *ultra vires* The surcharge was originally made upon a report of the Panel Committee and was adopted by the Insurance Committee upon the recommendation of a Subcommittee on March 1st, 1915 Shortly afterwards it had been found that the medical man had not been heard in his own defence by the Panel Committee, as he had a right to be, but had only been before a Subcommittee of the Panel Committee which had held the inquiry on behalf of that body In order to set this right the Insurance Committee sent the matter back to the Panel Committee for reconsideration and rescinded its own resolution of March 1st The Panel Committee invited the medical man to appear before it, and this he did but only under protest that the Regulations were illegal and *ultra vires*, and that any report or resolution of the Committee could not be enforced against him, and he refused to answer any questions or to offer any explanation The plaintiff s solicitors had already taken up on his behalf the position that the Insurance Committee had had the matter before it and was *functus officio* so far as any further consideration of it was concerned Mr Justice Rowlatt held as to this that the fact that the questions raised had been fully gone into already did not preclude the Committee from reopening them, and that the second meeting of the Panel Committee could not be called a pretence As the plaintiff had been invited to attend it and had refused to speak, it could not be said that he had not had a full opportunity to support his own case On the question whether Regulation 40 was *ultra vires*, his lordship referred to Section 65 of the Act of 1911, which gives the Commissioners power to make rules ' generally for carrying this part of the Act into effect." It was obvious, he considered that the Act did not give unfettered discretion to medical practitioners with regard to prescribing, and that there must be a limit to the amount available as well as a duty to prescribe reasonably In order to carry out the Act it was necessary to prevent extravagance in prescribing, and therefore the Regulation being made for this purpose came within the general powers given to the Commissioners for carrying the Act into effect He gave judgment for the defendant Committee with costs

Standing Orders for Panel Committees

The Insurance Commissioners have issued a set of draft standing orders for the assistance of Panel Committees The draft orders are described by the Commissioners as not necessarily exhaustive and as intended to be amplified or supplemented as may appear desirable. They seem, however, to cover most of the necessary ground, providing in the usual manner for the election of officers and defining their duties, with orders devoted to the procedure at meetings the procedure in connexion with cases of excessive prescribing, and other matters appropriate to the work of the committees in question

The Return of Record Cards

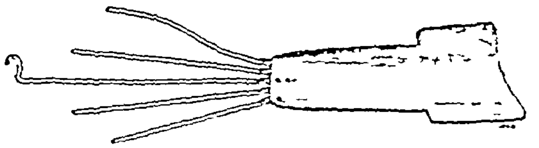
Medical men on the panels have been reminded by circular that the currency of the record cards prepared during 1915 expired on Dec. 31st, consequently the lower halves of such cards have to be sent to the Commissioners not later than Jan 22nd, and at the same time the upper halves to the Insurance Committee concerned. A good many instructions and warnings as to the making up and forwarding the records in question are contained in the circular and attention to these should insure accuracy, without which the machinery of the Insurance Acts cannot be expected to run smoothly

New Inventions.

A NEW METACARPAL SPLINT

OWING to the difficulty I have recently experienced in the treatment of fracture of metacarpal bones, I have devised a splint which provides both for the necessary abduction of the fingers and extension of the fragments, at the same time it allows a certain degree of mobility and leaves the hand accessible for passive movements and massage from the very beginning of treatment It consists of two portions—one for the forearm and the other for the carpus metacarpus and phalanges, the former is a shallow trough of galvanised iron shaped to accommodate the flexor aspect of the forearm, and the latter consists of five pieces of 3/16 inch copper wire arranged in such a way as to correspond to the five separated digits The wire half is fixed to the forearm portion by means of copper nails passed through the proximal ends of the digital wires and hammered out flat on the back of the distal end of the galvanised iron portion It will be noticed in the accompanying illustrations that the forearm portion has two lateral projections and the purpose of these is to give purchase to bandages which can be passed over them and above the elbow to provide for counter extension Extension on the distal fragment of the metacarpal bone is obtained by hooking a piece of rubber tubing attached to the finger or fingers over the extended portion of wire bent to a right angle and curved to accommodate the rubber tubing I have found that the most comfortable extension for attachment to the finger can be made by laying a piece of ¼ inch rubber tubing along the palmar and dorsal aspects of the finger and very lightly binding it in position with narrow adhesive plaster so that the bent loop of the rubber fits over the distal extremity of the finger, this loop of tubing can be stretched over the upturned end of the copper wire after the splint is bandaged to the forearm

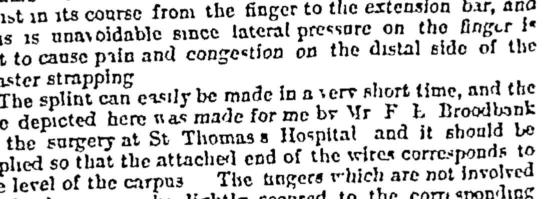
FIG 1



One seventh natural size

The illustrations for which I am indebted to Mr D C Bluett, show the splint as made for the treatment of fracture of the third metacarpal bone of the left hand, and the method by which extension is obtained It can, of course be applied with equal ease to more fingers and to the thumb It will be noticed that the rubber extension has a twist in its course from the finger to the extension bar, and this is unavoidable since lateral pressure on the finger is apt to cause pain and congestion on the distal side of the plaster strapping

FIG 2



One half natural size

The splint can easily be made in a very short time, and the one depicted here was made for me by Mr F L Broodbank of the surgery at St Thomas s Hospital and it should be applied so that the attached end of the wires corresponds to the level of the carpus The fingers which are not involved in the injury can be lightly secured to the corresponding wires by means of a rubber or metal ring or a turn of bandage

I have also used this splint with some success in the cases of cellulitis of the hand to prevent contraction of the fingers and for this purpose it may be made to apply to either the dorsal or palmar aspect of the forearm and hand With very slight modification it might be of value in the treatment of Colles s fracture

JOSEPH E ADAMS M S Lond F R C S Eng
Surgeon in Charge of Out patients and Children s
Department St Thomas s Hospital &c

Devonshire-place W

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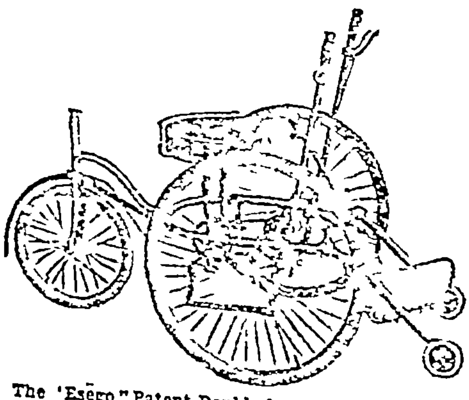

The 'Esego" Patent Double-lever Hand Tricycle. New Model

"SUPSALVS"

(REGISTERED)

STABLE SUPPOSITORIES, containing "606."

(Professor BAGROV'S Method)

At the International Congress of Medicine Ehrlich stated that the biochemical action of **"606"** on *spirochætes* is not direct but indirect, a third factor found in the body fluids being necessary

This success is explained by the well known experiment of Levaditi "If living treponemas be placed in a solution of Arsenobenzol (Ehrlich's 606) they continue to live in it But if a trace of extract of liver be added to the mixture the treponemas are destroyed "

"If 606 has to be taken up and transformed **by the liver** in order to become toxic to the treponema there is no better mode of absorption of the drug than **by way of the intestine,** since all the **veins of the intestines** join the **portal vein** If this be the case no route could be more indirect and more unsatisfactory for active treatment than one that is not intestinal or not intravenous (i e , prehepatic), since some of the drug must necessarily become fixed everywhere before the passage through the liver has activated it " — Dr Sabouraud, La Clinique (13-4-1913)

As a result of numerous clinical experiments, Dr Bagrov of Moscow, has arrived at the same conclusion, and recommends the rectal method of administration of 606

The rectal method of administration of 606 may be recommended to medical men who do not wish to employ intravenous injections It yields excellent results, absolutely comparable with those obtained by the intravenous method, and is free from all risk

In order to render the employment of suppositories containing 606 practicable, it was necessary to find some excipient that does not alter the active principle, even if kept for a long time, and that facilitates its absorption by the intestinal mucous membrane

This requirement has been realised in our **"Supsalvs "**

They consist of a nucleus containing the active principle and surrounded by a greenish and slightly aromatic external envelope

They contain no anæsthetic and do not react on the rectal mucous membrane

In arriving at our prescription we have selected an excipient that shall be capable of assuring the chemical stability of the 606 in the presence of the intestinal contents The active principle and the vehicle being bound to one another, the mucous membrane is able to absorb both simultaneously and progressively in the form of an organic emulsion

Within twelve hours after the administration of a suppository the blood and the urine contain the drug, and it is easy to detect the arsenic by analysis

Indications.

Specific affections in all stages Tertiary lesions (General Paralysis, Sclerosis Tabes)

Infantile Syphilitic Pemphigus

Malarial as well as Cancerous Cachexia, Trypanosomiasis, and, speaking generally, all diseases due to Treponema

Mode of Employment.

One **"Supsalvs"** every three days preferably after the bowel has been cleansed by an enema until six suppositories have been administered. Then an interval of a fortnight

The treatment is then repeated in the same manner until three series of six suppositories each have been employed. In acute cases one or two **"Supsalvs"** may be administered daily without any harm treatment being continued for a week

In Boxes of 6 " Supsalvs " (Adult)—dose 0 10 gr
" 6 " Supsalvs " (Infant)—dose 0 03 grm

N B —For **HOT CLIMATES** we deliver each " SUPSALVS " protected by a special *patented metallic envelope, consequently* our "SUPSALVS" may be kept any length of time without deterioration

In order to withdraw the suppository from its envelope, cut with a pair of scissors the projecting edge which occupies the middle part of the envelope (Fig 1) and then pull out the metal cups (Fig 2)

Before opening the envelope plunge it in fresh or iced water for ten minutes after which proceed as above directed.

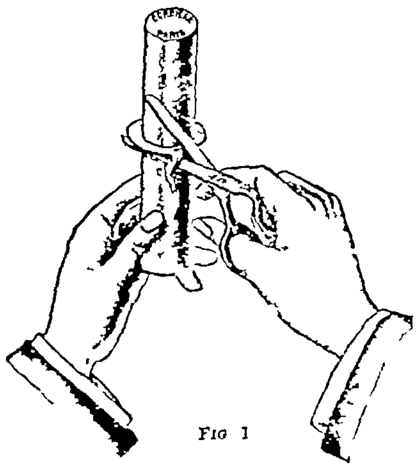

Fig 1

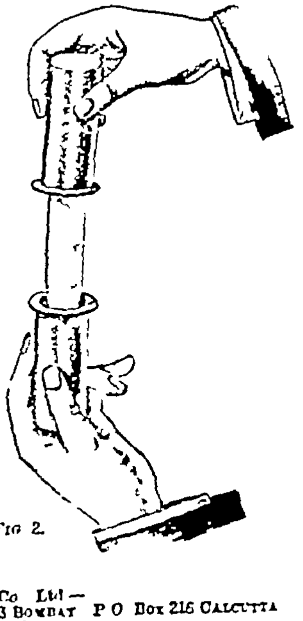

Fig 2.

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THE LANCET.

LONDON SATURDAY JANUARY 22, 1916

The Supply of Medical Officers for the Army.

THE adequate supply of medical officers for the army still remains the most urgent professional question of the moment, and the Central Medical War Committee has decided to issue to every practitioner of military age a letter asking him to enrol with the Committee and to come up for service if and when required in the Royal Army Medical Corps or the Royal Navy Medical Service The letter is published on p 216 When the applicants for commissions have stated, on forms provided, their name, nationality, date of medical registration, and various particulars with regard to their previous employment, an authorisation to the Central Medical War Committee will enable that body to forward to the War Office the request for a temporary commission in the Royal Army Medical Corps or in the Royal Navy Medical Service, but the applicant will not be called up until, in the opinion of the Central Medical War Committee, the proper time has arrived, and of this one month's notice is promised

Doubts still remain in the minds of many of our readers—we know it from frequent communications not intended for public reading—which centre round these two questions 1 Is the civil population deprived of medical service to a dangerous point? 2 Has not the War Office obtained already a sufficient number of medical men for military purposes if a more economical use were made of the supply? With regard to the first question, we have dealt at some length with most of its aspects in recent issues of THE LANCET, but it is possible to speak a little more definitely than hitherto has been permissible We are glad to believe that the views of the public, of certain local authorities and of the managers of many charitable institutions have been unduly pessimistic A shortage of civil medical practitioners is unavoidable, and indeed has already occurred but the consequences can be guarded against The value of coöperation between the various public bodies concerned and of economy in the matter of medical service is beginning to be appreciated and the public will find that the present depletion of medical men which will *continue* for some time and will perhaps assume an exaggerated form, can be to some extent remedied by self sacrifice on their part That the National Health Insurance Commission should be working in harmony with the Central Medical War Committee [illegible] guarantee that no real disorganisation [illegible] place in the medical care of the public The Commissioners fully recognising [illegible] prepared analyses of the medical practitioners in England and Wales, which show the number of general practitioners and other medical men compared with population in each administrative area, and indicate clearly the places where a dangerous dearth of medical men might be found. The actual figures are, at the present moment at any rate, not for publication, but we may say that they have been arrived at with the exercise of every precaution. The practitioners are classified as general practitioners and "others," the latter term implying public officials, resident staffs of hospitals, consultants and specialists, retired practitioners, newly qualified practitioners and those whose practice appears to be purely dental All this information has been placed in the hands of the Central War Committee, which was already in possession of the intimate information concerning medical men in different localities of the country furnished by the British Medical Association. It will be seen, therefore, that the Central Medical War Committee is in a good position to come to a fair decision in making calls throughout England and Wales upon the various medical men whose applications for commissions reach them The calls of the Central Medical War Committee will be made presumably in *accordance* with the system of classification which has been published, but the circumstances of individual practitioners and the opinion of Local Medical War Committees will be taken into close consideration, and the value of such well informed inspection of the individual positions of practitioners will be understood

With regard to the second question, the War Office certainly requires more medical men with the army, but it is not possible for anyone to say exactly what the future demands may amount to, these must be regulated by military exigencies The number of medical men serving in the army makes it, of course, certain that from various causes there will be a definite wastage This wastage will increase, inasmuch as a very large number of commissions were granted after March, 1915, but there is a definite understanding that when the Army Medical Department needs more medical officers it will state the number required to the Central Medical War Committee, whose constitution and terms of reference have now been stated in the House of Commons Then there will fall upon that Committee the responsibility of assisting the Local Medical War Committees to a decision with regard to the calling up in particular localities of particular practitioners, but as it will be fully informed of the position by the National Health Insurance Commissioners also the difficulties and delicacies of making such decisions will greatly disappear It is hoped that medical men, under 45 when invited to enrol with the Committee will do so promptly for in this way the recruiting of medical men for the navy and army will remain in medical hands and the difficulties and inevitable injustices of general conscription may to a great extent be avoided

The Midwives Act for Scotland

THE Midwives (Scotland) Act follows in policy and outline the Midwives Act, 1902, which did not extend to Scotland or Ireland, but differs from it through the introduction of details some of which are of importance To the more prominent of these differences we call attention below The general policy is maintained of allowing women holding certain specified certificates in midwifery or who have been in practice as midwives to be certified (i e, enrolled) under the new law, of forbidding all others from using the title "midwife" or any other title implying certification, and of fixing a date (Jan 1st, 1922) after which no uncertified woman may practise as a midwife for gain In Section 1 (5) there is an addition qualifying the disability of a midwife as to the granting of certificates by permitting her to grant such as may be required in connexion with maternity benefit by Approved Societies or Insurance Committees In Section 2 the period of two years within which certification must be sought may be extended by the Central Midwives Board for Scotland to meet the exigencies of special cases of delay

The Board when fully constituted will consist of 12 members (Section 3), with power to seek certain modifications of its constitution, including increase or diminution of numbers, by representation to the Privy Council and with the consent of Parliament Of the 12 members mentioned, however, a group of three, who are to be appointed by the Lord President of the Council, will some day include two certified midwives practising in Scotland, "when midwives so qualified are available in sufficient number to warrant such appointment" The number of registered medical practitioners on the Board is fixed at five These are to be appointed one by the University Courts of Edinburgh and St Andrews, conjointly, one by the University Courts of Glasgow and Aberdeen, conjointly, one by the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow, conjointly, and two by the Scottish Committee of the British Medical Association One member of the Board is to be appointed by the Society of Medical Officers of Health of Scotland, who presumably will be a medical practitioner, so that there should be six medical men on the Board, two midwives, and four others who may, or may not, be medical practitioners The appointers of these four will be the Lord President of the Council (one), the Association of County Councils for Scotland (one), the Convention of the Royal Burghs of Scotland (one), the Queen Victoria Jubilee Institute for Nurses (Scottish Branch) (one) Meetings of the Board will be held at Edinburgh, reasonable expenses in respect of attendance being paid Section 5, defining the duties and powers of the Board, provides that it shall appoint examiners, one of whom shall be a registered female medical practitioner and none of whom shall be a member of the Board, the Act of 1902 only stating that the Board is to appoint examiners Section 5 contains another innovation in the term used to describe the functions of the medical practitioner who is to be summoned when in cases of special difficulty it is clear that the midwife should not deal with the case alone It will be remembered that by the Act of 1902 and the Regulations framed under it, in cases specified a midwife is to advise that a medical practitioner be sent for, ceasing to treat the case herself, and that no provision is made for the payment of the medical man, who may or may not be called in by those who receive the advice to do so In the Scottish Act the Board have the duty of (Section 5 (1) (e)) "regulating, supervising, and restricting within due limits the practice of midwives and defining the emergencies in which a midwife shall call in a registered medical practitioner to her assistance" From this it will be seen that the midwife is made directly responsible for obtaining medical help for herself in the performance of her duties, and we quote the section in which the duty is amplified —

> Section 22 (1) In case of an emergency as defined in the rules framed under Section 5 (1) (e) of this Act a midwife shall call in to her assistance a registered medical practitioner, and the local supervising authority shall pay to such medical practitioner a sufficient fee, with due allowance for mileage, according to a scale to be fixed by the Local Government Board for Scotland, and such fee shall cover one subsequent visit (2) It shall be a condition of the payment of such fee that the medical practitioner so called in shall state in his claim to the local supervising authority the nature of the emergency (3) The midwife shall report forthwith to the local supervising authority each case of emergency in which she has called in a registered medical practitioner to her assistance stating the nature of the emergency and the name of the medical practitioner (4) The local supervising authority shall have power to recover the fee from the husband or guardian of the patient as an alimentary debt, unless it be shown to their satisfaction that such husband or guardian is unable by reason of poverty to pay such fee

It will be observed that apparently it is the fee only and not the mileage which the local authority may recover It is hardly necessary to say how much friction in the working of the Act of 1902 might have been saved if this section had been inserted in, or promptly added to, that statute

Other features of the Scottish Act are as follows —Power is given to suspend as an alternative to removal from the roll of midwives, and to pay compensation where suspension has been followed by a decision in the midwife's favour, or has been imposed in order to prevent infection, provision is made for the reciprocal treatment of midwives certified in other parts of His Majesty's Dominions for the disposal of fees payable for examination or certificate, and for the audit of the Board's accounts, and there is a power of entry for officers of local supervising authorities to premises believed to be lying in homes, where it is believed that a certified midwife practises or that a woman not certified practises in contravention of the Act It is also ordered that the medical officer of every local supervising authority shall report annually to the authority on the administration of the Act, transmitting a copy of his report to the Board and to the Local Government Board for Scotland, and the Board is to present a report of its proceedings annually to the Privy Council The Midwives (Scotland) Act, 1915, came into force on Jan 1st, 1916

Annotations

"Ne quid nimis"

THE HEALTH OF MUNITION WORKERS

Memorandum No 2, submitted by the Health of Munitions Workers Committee to the Minister of Munitions, deals with those matters outside the ordinary undertakings of factory management which have to be considered if the full efficiency of any factory is to be maintained, and which present difficulties not easily to be overcome in connexion with the vast and rapidly organised munition works now being carried on The four chief influences affecting industrial efficiency to which the memorandum calls attention are those which raise questions of housing, transit, canteen provision, and the individual welfare of the employee The sudden influx of workers in certain districts has overtaxed housing conditions beyond any limits that would be tolerated in normal conditions of peace Railways and other means of transit in many cases cannot provide for the men and women to be carried without imposing upon them overcrowding, waiting delay and loss of time the provision of suitable food in the factories or in such lodgings as are available for the workers, is only arranged with difficulty and not always with satisfactory results, and those responsible for the organisation of the factories, as such, have their time fully occupied without being able to devote any appreciable part of it to the personal supervision of the individual welfare of their workpeople To secure improvement in these four important particulars is quite essential if the factory is to be maintained at its highest efficiency, for the good health and content of the workers are necessary to this end In order to obtain better conditions the recommendation made by the Committee is that 'welfare supervision' should be established by those responsible, such as is now receiving the attention of the more enlightened employers welfare supervision not being a new thing but one the usefulness and desirableness of which have suddenly been rendered conspicuous The task of the welfare worker is no light one requiring as it does experience if persons so endowed are obtainable but in any case tact good sense understanding of industrial conditions, and sympathy The memorandum refers to courses of social study as established at the University of London and the University of Birmingham comprising lectures and practical work and designed for persons seeking to qualify themselves for posts as welfare workers as well as for other similar employment Assuredly the recommendations of the Committee should secure the support of all who can help to render them effective and there should be educated men and women of good standing who in this great national emergency will find in work among munition workers fit scope for their energies and their patriotism. No doubt the need for women welfare workers to help where women and girls are employed is the more urgently and generally felt, but the need exists also where the munition workers are men, and particularly where they are boys For this reason the memorandum to which we have referred should provide interesting and suggestive reading for many who are anxious to help their country, but who as yet have not found the niche best suited to them. The Committee responsible for it, having Sir George Newman as its chairman, includes Sir Thomas Barlow, Bart, Mr G Bellhouse (of the Factory Department, Home Office), Professor A. E. Boycott, Mr J R Clynes, Dr E L Collis (Factory Department, Home Office), Dr W M Fletcher, Professor Leonard E Hill, Mr S Osborn (Sheffield), Miss R E Squire (Factory Department, Home Office), and Mrs H. J Tennant

"SOLDIER'S HEART"

IN opening the discussion on the soldier's heart at the Section of Therapeutics of the Royal Society of Medicine on Tuesday evening, Sir James Mackenzie dealt with a subject which he has made peculiarly his own, and compressed into a brief half hour a complete account of the subject from a clinical and etiological standpoint The condition known as "soldier's heart" is best defined by stating what it is not The life of the trenches is in every way a trying one for the soldier, it finds out his point of least resistance, which may be an impaired heart serviceable enough for the conditions of his every day life but unequal to any severe and prolonged strain Loss of compensation follows and the ordinary symptoms of heart failure But this is not the subject of Sir James Mackenzie's address "Soldier's heart" itself is something quite different, and was first clearly described by American physicians during the Civil War as a form of heart trouble to which soldiers were particularly liable It is a condition characterised by exhaustion of the circulatory system, shown as regards the heart by breathlessness, a sense of suffocation and præcordial discomfort, and a frequency which if not raised during rest becomes unduly increased on slight exertion As regards the vessels, the condition is marked by great vaso motor instability, shown in pallor or flushing of the nose and extremities, attended with giddiness or fainting in the more severe forms But the symptoms are not confined to the circulatory system and in 90 per cent at least of the cases observed this system is not the one primarily affected, the circulatory symptoms are part of a general illness in which the central nervous system has a large share. Apart from the vaso motor disturbances there is an irritability of temper a depression of spirits, an inability to concentrate thought, a nervous tension liable to lead to sudden outburst and a tendency to focus the attention constantly on the condition of the heart, which implies a profound influence on the nervous tissues The condition is reminiscent, indeed of another condition of nervous exhaustion which has already been described in these columns when dealing with special hospitals for officers with nervous exhaustion In both class of cases there is a marked disinclination for mental exertion. And there is thus in common to the two states both are generally the sequel of prolonged strain combined with long periods of sleeplessness, with a severe shock, such as may follow the bursting of a high explosive shell, as the immediate forerunner Both, too, when fully developed are attended with much mental distress, which persists for a long time and passes off again very slowly In the one case the nervous system is probably itself the point of least resistance, in the other the circulatory system has also suffered, whether from the toxic influence of some infection or more directly from strain in the adolescent period, and the great majority of these cases occur in quite young soldiers who have not yet completed their full stature or full internal development The toxic influence, although not proved as an etiological factor in all cases, has much to answer for, as in a majority of cases there is a history of a period of malaise with slight febrile movement, insufficient, it may be, to occasion invaliding, succeeded after an interval by a second attack of a definitely incapacitating nature Upon most of these etiological points Sir James Mackenzie touched, but he was careful not to attach any degree of finality to them His desire is to continue the study of these cases, on a large scale, in a special hospital where accurate diagnosis and classification would be possible Treatment must follow on rational lines, and where a toxic origin has been established, it must include an attempt to brace up the powers of resistance, to eliminate the toxic products, and to renew the tissues specially affected One of Sir James Mackenzie's opinions deserves wide attention Where the condition is one of simple "soldier's heart," absolute rest is not indicated, rest in bed may tend merely to further weaken the cardiac muscle Appropriate and not excessive exercise is the right treatment both for the heart and the depression of spirits, and may take the form of fishing, riding, and golf for the officers, and suitable games such as bowls, quoits, and skittles for the men Sir James Mackenzie holds that in the indulgence in exercise, as long as it produces pleasurable feeling and no discomfort, lies the whole philosophy of the therapeutic treatment as far as the heart is concerned

CASES IN WHICH A POSITIVE WASSERMANN REACTION WAS OBTAINED IN PATIENTS LATER AFFECTED WITH SYPHILIS

POSITIVE Wassermann reactions are regularly found, not only in syphilis, but in some other protozoal diseases A positive result is also met with from time to time in patients who are affected with other diseases, but in all of these latter cases the question must arise, Have these patients been affected with syphilis previously so that the positive reaction is due to the syphilis and not to the other condition from which the patient happens to be suffering at the moment? Now it is exceedingly difficult to prove that a patient has not had syphilis, but it occurred to Dr S A Volyansky that as infection with syphilis is a perfect proof that at the time of infection the patient was not affected with syphilis it might be profitable to trace the subsequent history of these cases with positive Wassermann reactions to see if any of them later became affected with syphilis Dr Volyansky has made notes of a number of cases in the Kalinkinsk Hospital, Petrograd, in whom a positive Wassermann reaction was obtained without there being anything in the history or the symptoms to suggest a syphilitic taint, and certain of these cases were admitted some months later with primary sores, so that it may be fairly safely assumed that at the time when they gave positive Wassermann reactions they were not affected with syphilis In a paper which he has contributed to the Russian *Vrach* he gives details of two of these cases In one of them, a young woman, who was admitted with scabies, had some indefinite ulceration on the labium minus A well marked positive Wassermann reaction was obtained The patient was treated but without mercury, and she was discharged in a little less than three weeks Two months later she was admitted with a soft chancre, but eight months later she was again admitted with a hard sore and a syphilitic eruption In the other case the patient was first admitted with gonorrhœa and a well marked positive Wassermann reaction was obtained About six weeks later the patient was readmitted with a hard chancre, from which spirochætæ pallidæ were obtained Dr Volyansky promises that at the end of the war he will record all the other cases of the kind with which he has met, and his experiences will certainly be of interest It will be noted, with regard to the cases already considered, that the persons concerned were extremely likely to suffer from syphilis and therefore it was difficult to be sure that the positive Wassermann reactions were in no way connected with previous attacks

TENDER FEET AND VERRUCA PLANTARIS

DURING the continuance of the war, and perhaps now that active recruiting is taking place, it is striking that more is not heard of sound remedies for the cure or alleviation of the minor troubles of the feet Inasmuch as a very slight lesion or inflammatory reaction of the skin of the foot totally incapacitates a man for exercise, it is of the greatest importance that the foot should be kept as healthy as possible A large number of persons suffer from slight discomfort of the feet, which alters the gait as to make it at times quite awkward, but relief is not sought, either because it is not known where to apply for it or because the trouble may occur only intermittently—as, for instance, in damp weather The almost air tight boot may, of course play a part in acting as an incubator for micro organisms, and it is very certain that its inside is in most cases improperly aired It is therefore necessary to keep the skin of the foot, including the interdigital clefts, eminently clean, and when necessity requires it after the cleaning process it is useful to apply a disinfecting and soothing application, such as a 1 per cent carbolic acid and glycerine mixture or a two grain to the ounce salicylic acid and glycerine preparation Glycerine has been stated to modify the action of bacterial ferments and by its application alone in bromidrosis the manifest decomposition of sweat may be completely obviated[1] Many men have been disqualified by the examining officer for tender feet and corns, and doubtless many others who have gained admission to the army have, after repeated endeavours to overcome their inadequacy in marching, been invalided out from the same cause An important trouble which is sometimes classified as a corn on the sole of the foot and which is really a plantar wart or a nest of plantar warts—verruca plantaris—is usually extremely painful and incapacitating, and will often continue to recur after repeated operations for its removal by the knife and other means Many such cases, however, may be cured by the use of a combination of glycerine, salicylic and carbolic acid For an average sized patch the dressing is applied on a piece of lint about as big as a shilling, and oiled silk strapped over it The paste is made by taking an ounce of glycerine, adding enough salicylic acid to make a thick cream, and then mixing in one drachm of pure carbolic acid If the patient walk about with this on his foot for a day and re apply a fresh dressing the next morning it is often possible to peel away an area of thick sodden epidermis with the wart and its hard centre or core at one sitting, but it may be necessary first to apply a hot boric acid fomentation for a night to soften the area. Removal is best done by beginning at the periphery and peeling up gradually all round towards the central hard core After this the patient has a slightly tender foot which is usually quite comfortable within 24 hours The aspect of the area under treatment is sometimes disquieting to the patient, but as long as the application is kept strictly to the warty region no harm need be feared. It is, however, necessary not to permit the paste to reach the delicate ordinary skin, as it may cause an unpleasant form of blistering with subsequent formation of troublesome scar tissue Hence it is not desirable to let the patient carry out the treatment on his own behalf.

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[1] T H C Benians THE LANCET Dec 5th, 1914 Brit Med [illegible] Dec 18th 1915

TYPHOID COEXISTING WITH DIPHTHERIA

THE coexistence in a patient of typhoid with diphtheria is seldom observed At a recent meeting of the Société Médicale des Hôpitaux of Paris M Joltrain stated that during last winter among the soldiers at the front there were epidemics of both diseases which gave rise to many cases of double infection with the typhoid bacillus or the paratyphoid (A or B) and the diphtheria bacillus In a barracks used as a temporary hospital for one army corps 4000 cases of pure typhoid and 796 cases of pure diphtheria were treated During a period of eight months 120 cases of typhoid or paratyphoid complicated with diphtheria were discovered, but this figure was below the reality owing to the great difficulty of the clinical diagnosis of diphtheria and the impossibility of bacteriological examination in all the cases Two distinct epidemics of diphtheria were observed among the typhoid patients at the time when a large number of cases of diphtheria were being treated The first occurred in December, January, and the early part of February, the second lasted from the beginning of May to July In investigating the etiology it was found that a certain number of patients admitted to hospital suffering from typhoid were also diphtheria carriers, as was shown by cultures made from their throats Later they developed diphtheria. In other cases patients suffering from typhoid contracted diphtheria in hospital from an *infirmier* who was a carrier or from a patient the subject of unsuspected diphtheria From the clinical standpoint three classes could be distinguished 1 Patients with the complete syndrome of typhoid cultures from whose throats showed the diphtheria bacillus but the typhoid did not appear to be modified 2 Patients suffering from typhoid showed a sore throat with membrane of which the diagnosis was easy The typhoid was always severe, though among eight cases there was only one death 3 In the largest class (59) the clinical picture was more complex, examination of the throat did not enable an exact diagnosis to be made Usually the patients were admitted from the sixth to the tenth day of an attack which differed little from ordinary typhoid Cultures from the throat revealed the diphtheria bacillus Detailed comparison with ordinary cases of typhoid showed some symptoms which were suggestive, especially those which could be attributed to the association of toxæmia of diphtheria with septicæmia of typhoid The temperature curve was more irregular than in typical typhoid, and in some cases the temperature remained stationary for 12 or more days In some cases at the beginning of convalescence, after the temperature had fallen by lysis, the general condition became worse, and without apparent cause the temperature rose again from normal to 101° or 102° F A most convincing phenomenon was the fall to normal of a very high temperature, which baths and other methods failed to reduce, after injection of antitoxin The general appearance of the patient was important There was great asthenia with facial pallor in 60 per cent of the cases Albuminuria was present in 84 per cent, while in typhoid in which cultures from the throat were negative it was present in only 20 per cent Vomiting—a condition very rare in typhoid in the absence of perforation or gastric ulceration —occurred in 18 cases The throat was carefully examined In 10 cases it was simply red In 12 cases there was œdema of the uvula with an opalescent pellicle on the palate and pillars of the fauces, difficult to distinguish amid the sordes encumbering the whole buccal cavity In 8 cases there was hoarseness, dysphonia, or aphonia, but the vocal cords showed nothing characteristic of either typhoid or diphtheria. They were simply dry, like the mouth and throat, and sometimes one or both cords were paretic. Thus cultures from the throat remained the criterion. But a positive result in cases of typhoid with a normal course indicates only that the patient is a diphtheria carrier It is best, however, to prevent possible complications and get rid of the bacilli by prophylactic injections of antitoxin On the other hand, when the bacteriological examination is negative diphtheria is not excluded with certainty

THE TREATMENT OF PHTHISIS BY SUN-BATHS

Dr W Holmboe gives a very encouraging account[1] of his experience with the treatment of pulmonary tuberculosis by heliotherapy at Mesnalien Sanatorium in Norway during the year 1915 Mesnalien lies in the open country between the Gudbrandsdal and the Østerdal, 1800 feet above sea level, in about the latitude of the Faroes[2] The snow lies on the ground there for perhaps eight months of the year, from October to May, and Dr Holmboe was at first inclined to believe that the climate would be altogether too cold for the sun bath treatment for the average temperature in winter is from − 5° to − 10° or − 15 C Experience has shown him that he was mistaken here, and that the patients can strip and take sun baths in open verandahs all the year round at Mesnalien, excepting in December and January, when the sun never rises sufficiently high above the horizon to keep the hardiest of them warm in an air temperature of – 3°C for more than half an hour If closed glass walled verandahs were available the sun bath treatment could be carried on with advantage all the year round even in this high latitude Dr Holmboe gives the sun baths in the hours usually devoted to rest, and without curtailing the exercise hours, he notes that sun baths have to be taken in solitude, and that this has the advantage of keeping the patients duly quiet during the rest hours He remarks that Norway naturally has less sunshine than Switzerland, the country especially famed for heliotherapy, but still has plenty to make the sun bath treatment worth while, he adds that on cloudy days therapy by radiant light should take the place of the sun baths, a suggestion already made by Rollier, of Leysin, and carried out in a majority of the Swiss sanatoriums, where a quartz lamp is considered part of the routine installation There was comparatively little sunshine at Mesnalien in 1915 during the first 319 days of the year there were only 150 on which sun baths could be taken, in July there were only seven! But the Norwegian sun is powerful even in winter, and a black bulb thermometer exposed in vacuo rose as high as 45°–55° C when placed in the sun in February or March, and to over 40° C in November Dr Holmboe observes that the great enemy of heliotherapy is the wind, he adds that the patients have to wear dark glasses to protect their eyes, and may be allowed to advance to the complete sun bath at about the ninth exposure, wearing broad brimmed hats to protect their necks The maximum daily duration of the baths has been 4½ or 5 hours, in two séances Only once has he seen any unpleasant effect from sunburn—an erythema, this was accompanied by fever and sore throat, and may not have been due to the sun at all His patients generally became much pigmented by the sun's rays According to Rollier the cutaneous pigmentation is to be regarded as a method of transforming ultra violet light into light of longer wavelength, which is more penetrating Reyn, on the other hand, argues that the pigment has the opposite effect of converting the light waves into ultra violet waves, and he regards it as harmful on the whole, whereas Rollier regards its occurrence as a good sign Dr Holmboe has had the same experience with cases of pulmonary tuberculosis as Rollier has had with surgical He finds that all his patients, without exception, were the better for the sun bath treatment, which gave them a feeling of well being and quiet, and facilitated the carrying out of the rest of the treatment The sun baths never raised the patients temperatures, but did sometimes produce a temporary quickening of the pulse, they improved the patients appetite Dr Holmboe finds a tendency to hæmoptysis the only contra indication to heliotherapy in phthisis, fever is not a reason for withholding sun baths, nor is the fact that a patient may have advanced pulmonary disease He has been surprised to find how well the treatment has suited all his patients, men and women, blondes and brunettes alike, whether it led to marked cutaneous pigmentation or no He concludes by praising heliotherapy in phthisis highly, it adds to the comfort and cheerfulness of these victims of a chronic and depressing malady, and is, indeed, the only treatment he has not found to be a disappointment

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[1] Tidsskr f d Norske Lægeforening Christiania, 1915 xxxv., 1197

[2] THE LANCET May 30th 1908 p 1579

THE DEMAND FOR EXPLOSIVES AND THE FOOD AND DRUG SUPPLY

WAR in its demands comes sternly first Even certain foods are being sacrificed, it appears to supply the basis of the high explosive The only source of glycerine, for example, is the fats, and many fat yielding commodities are being pressed into service for the sake of the glycerine structure contained in them The final product is, of course, nitro glycerine The increased call for linseed lard, nuts, and cocoa illustrates the extraordinary hunger going on for the basic principles of explosives, derived from fatty food products Many, too, of our valuable drugs, and especially the synthetics, are similarly prevented from being economically prepared, since their elaboration is dependent on the use of raw materials, such as benzene, carbolic acid, toluene, all of which have been commandeered for munition service Recently a memorandum has been issued asking the public not to grumble at the quality of the gas supply and, further, to use as much gas as possible in order that the gas makers may get a bigger yield of benzene and toluene The withdrawal of these two substances from coal gas depreciates its illuminating power, though that matters little in these days of incandescent mantles, and when the use of the old fish tail burner has become practically extinct At one time we depended entirely upon the illuminating value, *per se*, of gas for lighting our houses and streets Now it does not matter if gas burns with a non luminous flame, it is so soon and effectively made radiant by putting in its path the rare earth resistance, the incandescing mantle It is wonderful to reflect what an extraordinary influence upon the world's affairs the producers of gas have shown since their inception of business as providers of an effective method of illumination They started to make gas for lighting purposes, and incidentally a group of by products appeared which proved to be the foundation of several most important industries In due time they began to supply fertilisers for the soil, antiseptics in surgery remedies in medicine, and dyes for the colour trades And now, in war their ploughshares have been turned into swords To take one example, we cannot now make aspirin or the salicylic derivatives in general economically because phenol, which is their starting point, is required for making picric acid, just as the glycerine in certain of our fatty foods is required for making nitro glycerine The same is true of many other synthetics, and also of the dyes There is no difficulty in producing them but there is a shortage of raw materials consequent upon the first call for their application being the making of munitions These considerations form one of the many serious outlooks of the war and we may well pray that this deflection of our raw materials into the service of war may soon cease

APPENDICITIS WITH THE CÆCUM ON THE LEFT SIDE

Dr C E Corlette has reported in the *Medica Journal of Australia* the rare condition of appendicitis with the cæcum and ascending colon on the left side He saw in consultation a man aged 42 for suspected appendicitis The temperature was normal and the pulse 96 and there were pain and tenderness referred to McBurney s point and also a little higher The pain had begun suddenly 24 hour previously, and had been severe all night. There had been no vomiting. Appendicitis was diagnosed, and the usual incision was made and the abdomen opened, but the appendix could not be found, nor could the cæcum or ascending colon. The right side of the abdomen was occupied entirely by small intestine. The incision was closed and a median opening made through which the abdomen was explored. The cæcum and ascending colon were found on the left side in contact with the descending colon, the transverse colon and omentum being absent. The appendix was long, swollen, and inflamed, and attached by a long meso appendix. The cæcum and ascending colon were furnished with a mesentery presenting a free border at the brim of the pelvis and attached along the middle line in front of the vertebral column. The rare anatomical abnormality present would be very disconcerting for an inexperienced operator, and might easily lead to abandonment of the operation with an untouched appendix. It is noteworthy that although the appendix was on the left side both the pain and tenderness were referred to the usual spot on the right side. This Dr Corlette does not attempt to explain. He has seen many cases of pelvic appendicitis in which the pain and tenderness were diffused in the hypogastric region with little or no localisation at McBurney's point. The October number of *Surgery, Gynecology, and Obstetrics* contains an article by Joseph H. Schrup on "Left Sided Appendicitis." He describes a case closely resembling the above. There was tenderness over McBurney's point, but at the operation the cæcum and ascending colon were absent from their usual place. The jejunum was coiled up in the right half of the abdomen. The cæcum was on the left side near the sigmoid. A radiogram taken later showed angulation at the splenic flexure and absence of the transverse colon, while the cæcum and ascending colon were in close apposition to the descending colon and sigmoid. Schrup has collected two other cases of similar anomaly recorded a long time ago, one by Cabot of Boston in the *Medical and Surgical Journal* of 1836, and the other by Cluene in the *Journal of Anatomy and Physiology* of 1867.

LOUPING ILL

A PAMPHLET published by Messrs Blackwood and Sons records the investigations of Dr J P McGowan, assistant superintendent of the Laboratory of the Royal College of Physicians of Edinburgh, into the disease in sheep known as "louping ill." There have been several inquiries into the nature of this malady but nevertheless its causes and pathology seem to have remained somewhat of a closed book. The research in this instance was carried out on behalf of the Edinburgh and East of Scotland College of Agriculture and the expenses incurred were met from the Development Fund through the Board of Agriculture for Scotland. In acknowledging that the subject of "louping ill" is a very intricate and difficult one the author controverts the idea that the disease is due to ticks and shows that it occurs on holdings and land where ticks have never existed especially in cases of low ground arable farms. He agrees however that where the tick is "louping ill" is always worse. "Louping ill" braxy, stomach staggers and grass sickness are considered to be essentially of the same nature but epidemiologically different. Braxy is the result of a sudden violent chill as a predisposing factor and "louping ill" is ascribed to a less violent one. The cause of the complaint is the bacillus bipolaris septicus ovium, which produces effusion into the pericardial sac and hæmorrhages in the heart muscle, mucosa of the fourth stomach and kidneys, and œdema of the lungs and subcutaneous tissues. Extreme variations of outside temperature, prevalent chiefly in spring and autumn, and improper or poor food supply render the subjects liable to attack. Lambs sucking an affected ewe may take the disease through her milk, and in them diarrhœa is a pronounced symptom. Shelter from bad weather, separation of ill thriving lambing ewes, and special feeding are recommended as preventive measures; affected pasture should be burnt, and the administration of a purgative to affected animals and their isolation are advocated as remedial measures. Injections of cultures of the bacillus into rabbits produced typical symptoms of the disease. The investigator does not consider the malady contagious, although recommending isolation, and he points out that cattle take the disease and are affected in the same manner as sheep. Navel ill, the œdema and pyæmia produced by tick bites, and wool ball in the stomach are cited as instances of pseudo louping ill. In the preparation of this report a circular of questions relating to "louping ill" was addressed to many who had knowledge of the disease and their answers to the questions put were very helpful to the cause of research.

SIR DYCE DUCKWORTH has been elected a Membre Correspondant Étranger of the Académie de Médecine of Paris.

WE regret to record the death, on Jan. 16th, of Dr Herbert Williams, medical officer of health of the Port of London.

RELEASE OF A MEDICAL MAN IN THE CAMEROONS.—Official notification has been received of the release, on Jan. 8th, of Dr James Lindsay, of the West African Medical Staff by a British force from his captivity in the Cameroons. Dr Lindsay was captured by the Germans shortly after the outbreak of war and interned near Jaunde.

A DOMESTIC ECONOMY EXHIBITION.—On Jan 17th at the Institute of Hygiene, Devonshire-street, W. Princess Louise Duchess of Argyll, opened an exhibition, the object of which is mainly to indicate some of the ways in which waste in the household can be prevented. Her Royal Highness pointed out that although much of the waste in our kitchens is due to carelessness some must be credited to an ignorance which may be removed by instruction. Sir William Bennett the President read an address of welcome. The exhibition will remain open from 12 to 6 until Saturday. To-day (Friday) at 3.30, Dr J S Owens will lecture on Waste in Fuel.

DUNDEE'S LOW BIRTH-RATE AND HIGH DEATH-RATE.—For the year 1915 the birth rate in Dundee was just over 22 per 1000 inhabitants compared with 28 per 1000 in 1905 24.5 in 1913 and 25 in 1914. Previously the falling birth rate was offset by a falling death rate. In 1915 this was not so the surplus of births over deaths being only 165; in the worst of the previous years it was never below 1500. Among children under 1 year of age the proportion of deaths was 210 for every 1000 born. A contributory cause of this high mortality was the occurrence of two severe epidemics of whooping cough, while measles prevailed in the city in the early part of the year. Whooping cough also accounted for 305 deaths causing the heaviest death rate from whooping-cough known in Dundee. The death rate from measles although high has been exceeded on one or two occasions.

STRETCHERS FOR THE WOUNDED IN THE TRENCHES

BY G H COLT, F R C S ENG,
CAPTAIN R.A.M C (T F) ASSISTANT SURGEON, ROYAL INFIRMARY ABERDEEN

ON August 15th, 1915, I received a letter from Captain D'Arcy Power, R A M C (S R), at the front, in which he says —

> We are in most urgent need of a stretcher for use in the trenches Although we have all for months past been trying to devise something all our efforts have failed so far The communication trenches are very long in certain parts of the line They are 27 inches wide at the level of the hip and 29 inches wide at the level of the neck. They have no traverses but they bend about in rather sharp curves and are 6 feet deep The fire trenches are 19 inches wide at the level of the hip and 25 inches wide at the level of the neck, and are 9 feet deep They are formed with traverses of 6 feet at intervals of 20 feet and the chief difficulty is in getting round these—i e in turning the corners The diagonal width across the corner of such a fire trench is 29 inches at the level of the hip and 32 inches at the level of the neck. The regulation stretcher fails utterly, but in a communication trench where there are no traverses but only bends the bearers may hold the stretchers at arms' length over their heads The fire trenches are too deep for this even if it were safe My dressing station was situated 800 yards behind the front-line fire trench, and with our present lack of suitable stretchers it took anything from 1½ to 2½ hours to bring a wounded man 800 yards back this distance. Then if it was an urgent case and it was daylight he had to be man handled down another 800 yards of trench to a village where a motor ambulance was stationed If the case could wait till dark the ambulance was able to run up to the dressing station and thus save this second 800 yards of carrying but even in the dark the car was able to get up no further as the road was all shell holes

Now, after a year of war, and especially after the publication of Captain G K Aubrey's article[1] drawing attention to the need of stretchers for the wounded in the trenches, it is unfortunate that more experimental work on the subject has not been published Such work could only be carried out with difficulty if done on active service, whereas many surgeons at home might be able to design a pattern of stretcher that would prove efficient Early and quick transport is probably of equal importance as if not of greater importance than, the application of a field dressing There is nothing difficult about the manufacture of Aubrey's stretcher It consists essentially of two poles each 4 feet long Each is provided with a hinged leg, which when let down enables the stretcher to be balanced while the bearers take a rest The width of the stretcher when fully expanded is 20½ inches There are no traverses The patient sits with his back and head against the chest of the back bearer and his legs hang down

From the measurements of the fire trenches given in the letter the maximum length diagonally across the convex angle of the corner measured at right angles to the line joining the convex and concave angles is only 4 feet and this is reduced to 3 feet at a distance of 9 inches from the convex corner Aubrey's stretcher could not possibly pass round a corner in so small a trench in the ordinary way Since there are no transverse props in this pattern of stretcher, by compressing it laterally and tilting it sideways or upwards it might be made to pass at the risk of tipping the patient out or of causing him pain He may be secured, as Aubrey suggests by a band across the chest This stretcher was made on the spot, it proved of much service and several were soon in use in the brigade, but Aubrey had no doubt that it could be improved, and hoped that suggestions to enhance its value would be made by others In a letter which followed his article, signed "W J M E,"[2] the suggestion was made to adapt a wheel barrow for the purpose of negotiating the sharp turns of the spurs thrown out to protect the trench from enfilading fire "Shallow troughs could be fixed on either side of the wheel, and in these the patient's legs could be laid Where the bearer company was insufficient to deal with large numbers of the wounded, it would be possible to manage a case with only one bearer" "W J M E" also suggested that when mud and water prevented this method of transport a chair carried on the tilt with lashed poles and side ropes to prevent an insensible patient from falling out could be used

The measurements of the trenches given above are less than those shown in the sketches in "Field Service Pocket Book, 1913," and no doubt exigencies of service, greater safety, and the nature of the soil demand different measurements in different localities To be obliged to place men in a trench so narrow that even two unwounded persons cou only pass with difficulty and to be unable to provi a quick and efficient means of moving them alon it when wounded is unsatisfactory New trench also may in some respects be more difficult traverse than those in which the corners have bee worn away It should be noted that even a sma rounding off of the convex angle at any corner mak a relatively large difference in the ease with which stretcher can negotiate it and adds very little to th risk from enfilade fire Baying out the concav angle has much less effect as regards ease movement

Methods Tried

The officers and men had tried —

1 A single pole stretcher with the canvas slun below it by cords like an Indian "doolie" o "dandy" The pole had a joint in the middle, an failure had resulted as no satisfactory joint coul be evolved This was one of the best arrangement tried The failure of the Indian dandy to negotiat the corners and slopes in mountain warfare is wel known

2 Rogers's stretcher The poles are 3 feet 6 inche long Bands for the shoulders are attached to th upper end of the upright portion of the canva which is thus held up by the front bearer, agains whose back the patient leans As in Aubrey stretcher the patient sits with his legs hangin down The length of the seat is 23 inches and th width 18 inches As a matter of experience it wa found that most of the weight came on the front bearer The stretcher could not be lowered to the ground with a badly wounded man in it, and so the bearers could get no real rest An unconscious patient was apt to roll off, as the hands of the bearers were fully occupied and there was no room for a third man to hold him on

3 A chair tied on to two poles and carried with the seat tilted slightly This arrangement answered well in some cases and was readily improvised A disadvantage of it that was not mentioned is that when used for a patient with a fractured femur the seat is too short to act as a splint and its front edge may act injuriously so as to cause further displacement of the fragments

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[1] THE LANCET Dec 26th 1914 p 1433

[2] THE LANCET Jan 2nd 1915 p 45.

4 A blanket or ground sheet carried by the corners This is in common use, but is often difficult and tiring to manage For unconscious patients liable to suffocate, for "gassed" patients, and for cases of fracture of the lower limbs this method is most unsuitable The same objections apply to any stretcher of the hammock type in which no prop is provided to keep the bearers the same distance apart

It is apparent from the foregoing that the problem is one of some difficulty Such questions as lightness, the possibility of setting the stretcher down for the bearers to rest, loading and lifting the stretcher, passing men and boxes in the narrow spaces, and above all causing as little pain and injury to the patient as possible, have to be considered At present the bearers soon get knocked up The advantage of Aubrey's stretcher over Rogers's is that it has two folding legs which can be let down, and the stretcher is then balanced while the bearers rest Soft ground must result in difficulty in this respect Shoulder bands also may be used for the suspension I am told that any rigid stretcher which has no traverse is tiring for the bearers to manage In both these types the patient is apt to roll off, and it is a question whether the sitting up position is a good one for any unconscious patient In both cases the patient's legs hang down There is no great disadvantage in that provided they do not knock against uneven ground and are not kicked by the adjacent bearer If there is a fracture of the leg bones extension will be made by the weight of the limb and the boot A bayonet or other simple short splint could be lashed to the leg below the knee The advantage of the position is that the carrying length of the patient is comparatively small In the trials carried out by us it was found that it was a disadvantage to provide an extension piece to the canvas for supporting the legs and feet because of the varying length of leg in different patients Such supports are uncomfortable even in the absence of injury may lead to further injury if a fracture is present and if made adjustable are apt to be too complicated A simple stirrup is one of the best of such supports and can be readily improvised by tying on a sling of bandage in the required place From the illustrations[3] given of a further development of this type of stretcher it would appear that the vertical supporting poles could readily be used for splinting the outer sides of the patient's legs The ends of such props and the ends of any upward projecting pole or back rest catch in the sides of a trench when the stretcher is tilted sideways

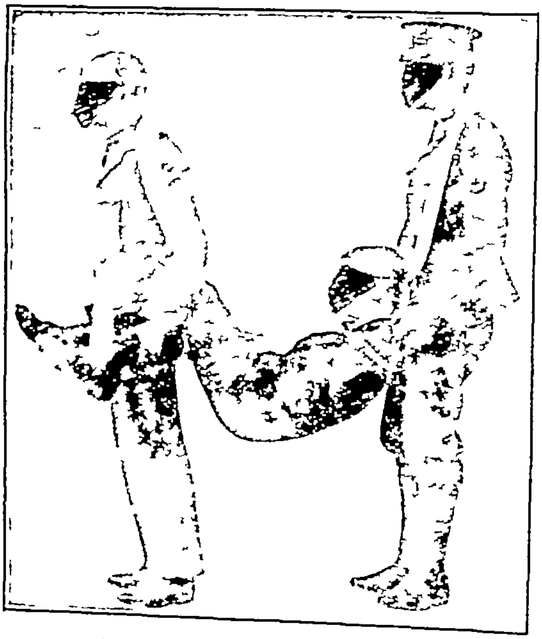
The "Fowler Position"

Now it seems to me that the Fowler position, or a near approach to it, would be a better one than the sitting up position In the case of an unconscious patient there is not the same degree of risk of his falling out and he is more readily controlled if he is restless For thoracic and abdominal cases, more especially cases of commencing peritonitis, the position is one of the best if not the best that could be chosen For a case of fractured femur it is not by any means bad because the support lies evenly from the buttocks to the knees, but if the fracture were near the knee joint it is at present a matter of trial to see how the position answers For a case of injury to the leg especially a fracture, as already mentioned, the only disadvantage is the risk of the injured limb being knocked by obstacles or by the adjacent bearer For cases of severe collapse or shock the position is not the best theoretically, but the speed with which the vascular system adjusts itself to the maintenance of blood pressure, even in severe cases, is often remarkable, and the cause of the collapse may be peritonitis The Fowler position, especially if maintained by a rigid system, can be quickly reversed so that the head is low and the pelvis high Some years ago Colonel H M W Gray had constructed for him a rigid tray with canvas floor, after an American pattern, for the purpose of moving patients in the Fowler position from an operation table back to bed in a nursing home where there were one or two awkward corners on the stairs The patient could by this means be tipped up nearly vertically, and in this way the contrivance readily negotiated the corners The great advantage of the Fowler position for present purposes is that the carrying length of the patient is seldom greater than 4 feet, and is usually less than this

The Flexible Method

Attempts to utilise the position may be made in three ways—viz, the flexible, the semi rigid, and the rigid In the first a strip of canvas 5 feet long is taken, and at one end it is fastened to a transverse knee piece which is suitably curved so as to partially splint the back of each knee and maintain a distance of some 4 inches or more between them.

FIG 1



The "Fowler position": flexible method

At the other end a rounded head frame is attached and continued down to the shoulders, where a cross piece, suitably curved so as to be comfortable, is fixed about 12 inches from the top of the head piece The shoulder piece and head frame are in one piece, so that the traction applied to the top of the shoulder piece, together with the weight of the patient acting along its lower border, tend to keep the head piece upright The length of the finished sling is 4 feet 6 inches, and the width of the knee piece and shoulder piece and the canvas stretched between them is 16 inches This is ample for almost any patient, and less will do, especially at the knee The edges of the canvas are turned over two side ropes which join up the corresponding ends of the knee and shoulder pieces These ropes are slightly shorter than the length of the canvas so as to give it a transverse bay like the sag of a much used deck chair or a hammock The side ropes can be omitted with certain kinds of canvas To the ends of the shoulder and knee pieces webbing shoulder bands are attached by hasps and rings Fig 1 gives an idea of the arrangement, and it is apparent that the method is really an improved form of the blanket stretcher It is certainly more comfortable both for the patient and the bearers than a simple "fore and aft" carry Suitable bands can be added to restrain the patient, the chief situations for these being just below the axillæ and just above the knees The height of the lowest part of the patient from the ground is about 1 foot 10 inches No provision has been made in this arrangement for keeping the bearers the same distance apart during transit The lack of this and the sideways spread of the feet with insufficient room for his legs are the chief objections to this method of carrying a patient The weight is 5 lb

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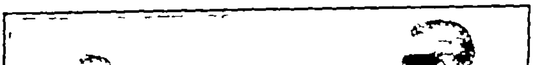
[3] THE LANCET, Oct 23rd 1915 p 822

The Semi rigid Method

In the second or semi rigid method the part of the stretcher in which the patient reclines is of the type described above It may conveniently be suspended in two ways The first is by means of two side poles each 4 feet long, as illustrated in Fig 2 The poles are attached to the shoulder and knee pieces by hasps and swivel rings which can easily be released Webbing slings may be added for the shoulders of the bearers A hinged prop may be provided for each pole as in Aubrey's stretcher, so that the apparatus may be balanced on hard ground, and allow the bearers to rest It seems to me that for simplicity it is better to omit the supporting props and to rely on other relief in this respect. The objection to these props in any short poled stretcher is that when dependent they catch in the wall of the trench and the feet of the adjacent bearer directly the stretcher is tilted sideways If the ground is soft they are apt to sink into it. For small shields could be added near the outer side of the ends of the handles of any short poled stretcher so as to prevent the knuckles of the bearers from being scraped by the walls of the trench This would appear to be a much needed improvement From the figure it will be seen that the only rigid part of the sling between the poles is the head frame, and the poles may be approximated to this extent when turning a corner The outside width of the two poles is then only 11 inches. This allows the stretcher to negotiate a right angled corner in a trench 28 inches wide, but the bearers require practice for this, the patient's feet are apt to catch in the sides of the trench and more weight is thrown on the back than on the front bearer This stretcher might be regarded as a modified form of Aubrey's, with the substitution of the Fowler for the sitting up position, with a reduction in width of 4½ inches, and with the additional traverses It folds up for packing The weight of the apparatus complete is 11 lb In any stretcher of this type it is difficult to reduce the effective length of the poles below 4 feet This leaves barely sufficient room for the patient's legs, even if the front bearer were to manage to walk quite evenly The lowest part of the patient is only 10 inches off the ground

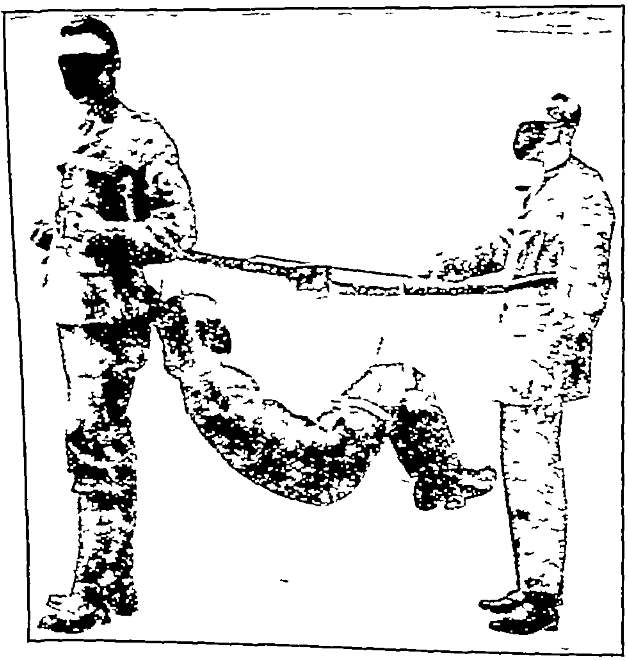
FIG 2



The "Fowler position" semi rigid method

In the second form of stretcher of the semi rigid type the suspension is from a jointed pole, as shown in Fig 3 The pole proper is of larch, the yokes of sarch, a wood of the willow type, tough and light This avoids any risk of the yoke splitting across the ends, but if the yokes were made of bent wood as would probably be the case in manufacture, there would be no necessity to use sarch The suspension is by ropes with hasp and eye attachments The pole is divided into two parts which engage at the central joint This is conveniently effected by a simple nut and bolt allowing movement in a horizontal plane Now it is found that directly every slight displacement occurs at the joint, forces come into play which cause a couple to act the moment of which about the joint tends to increase the displacement, the condition being one of unstable equilibrium Unless some kind of stop were provided disaster would follow, the pole collapsing completely In the course of the experiments one of the journeymen carpenters solved this part of the problem after a few trials It is by far the most important part of the matter He provided a lever and handle situated above the pole This addition results in complete control of the joint, and is in itself a very beautiful piece of mechanics The front end of the lever is fixed to the front part of the pole, the fulcrum is at the joint, and the handle moves free The back bearer by moving the handle determines the exact degree of bend at the joint and restores the same as required By suitably pressing on the handle in an upward direction he is able to prevent any tendency that he feels may exist for the joint to collapse When the pole is straight the handle of the lever can be locked to the back part by a hasp so that the pole is held rigid and the hands of the bearer are freed For certain special cases, such as the use of the stretcher on spiral stairs cases, a side extension bar may be affixed so that ngage the handle by stops and so enable the parts of the pole to be locked at any required e This bar is not illustrated To utilise the retical advantages of the lever fully the ard end should be attached at a point distant i the joint equal to one sixth part of the length he pole and the handle should be one third of distance from the joint, but in actual practice i these measurements may be departed from iout much loss of efficiency, and as regards the dle end of the lever with some degree of gain iuse a shorter handle is less likely to scrape inst the side of the trench It is to be noted in turning a corner the handle projects towards concave angle of the trench while the stretcher otiates the convex angle One great advantage this type of stretcher is that other men in the ach are able with care to step around and pass it an early pattern of this type, since discarded, the es were borne on the shoulders of the bearers e great disadvan es of this system re the difficulty of sing the yokes on the shoulders of e bearers and the ex ssive strain thrown the back bearer e had to resist the ndency to deforma on of the pole, and this position this ight be very hard ork indeed The front earer was subjected pressure on the two ioulders alternately, ccording to the direc on of turning The ict, however, remains s a result of trials hat this type of tretcher with the ole 6 ft 3 in long ver all, and the yokes 2' in wide outside neasure could just be nade to pass round he corners in a trench 8 in wide and one n which the convex corners are sharply ut As already mentioned, if these corners are rounded off slightly the ease of passing them is largely increased

FIG 3

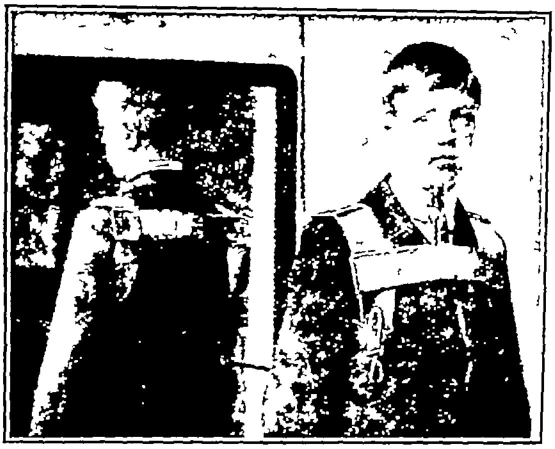


The "Fowler position" suspension from a jointed pole

In order to try to overcome the great strain on the bearers and the other disadvantages of the earlier pattern the suspension shown in Fig 3 was designed In this the yokes of the pole are suspended from the shoulders of the bearers so as to be level with the lower part of their chests, which they fit fairly closely They may also be held in the hands At times notably on a straight stretch, the bearers trust the weight to the shoulder slings entirely The lever in this case is worked by pulling from above it instead of by pushing it from below and the back bearer may have two hands free for this purpose The distance of the patient from the ground being less than when the yokes are carried on the shoulders the consequences for all three are not likely to be so serious should any accident happen but the patient is more likely to become soiled by mud The weight is more evenly distributed between the bearers, but the front bearer is purposely given more than the back one This method of suspension is a great improvement on the last and the strain on the bearers is considerably less The apparatus, in fact, becomes a manageable thing The over all length is 5 feet and the outside width of the front or larger of the two body girdles 15 inches The total weight is 23 lb There is no doubt that this could be reduced to 18 lb and possibly less with safety to the patient The lowest part of the patient is about 16 inches off the ground The stretcher can be loaded and will pass round right angled corners in a trench 18 inches wide During his transit in such a narrow trench the patient scrapes the corner If conscious and able to use his arms he can assist by pushing himself away from it In a wider trench this would not be necessary The increased ease of movement is marked and there is just room for the patient's legs Throwing more weight on the front than on the back bearer compensates the latter for his exertion in working the lever and enables him to keep a good look out A disadvantage of carrying the patient backwards is that the back bearer has no means of controlling him if he is unconscious The assistance of a third man is required in hasping up the bar to the shoulder straps of the bearers and in releasing them, but otherwise two bearers can manage alone In a winding trench 20 inches wide having no sharp corners but merely sharp bends there is very little difficulty in walking quickly with a patient slung as here described In a cornered trench 22 inches wide there is not much difficulty, and in one 24 inches wide the bearers can walk quickly with ease No short poled stretcher yet designed can be made to negotiate a corner with comfort to the patient and ease to the bearers in a trench 26 inches wide

The question arises as to how the patient is to be placed in a stretcher of this type No doubt much will depend on circumstances Probably the patient will be carried to the nearest spot where the trench widens out, and then lifted into the sling In other cases it may be more convenient, especially if the bottom of the trench is dry and there is room to move a little, to unhasp and spread the canvas on the floor of the trench and lift the patient lengthwise, or lift or roll him sideways on to it In doing this the important point to remember is to place the knee piece directly under the knees, the rest is self adjusting as regards length The head end of the canvas is placed in the direction of transit Then, if necessary, the restraining bands will be adjusted, the bearers will take up position and stoop down, holding the yokes while a third man fits the hasps to the eyelets of the canvas The back bearer will lock the lever

FIG 4



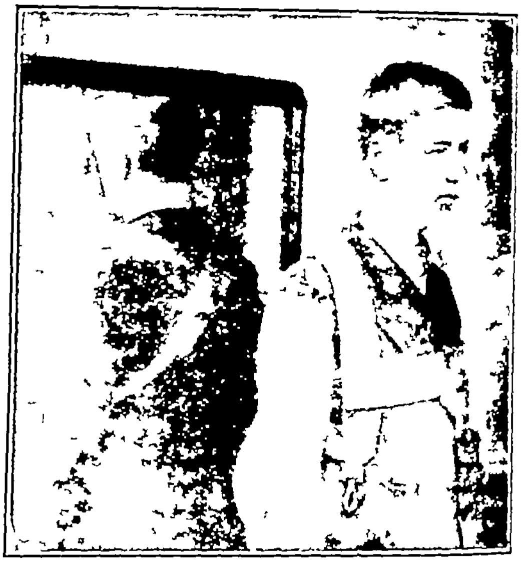
True shoulder suspension.

The stretcher will then be lifted and hasped on to the shoulder slings In certain cases the patient's head will be turned on one side and bandaged or strapped to the headpiece In other cases, one or both of his feet will be placed on the chest or shoulders of the back bearer and a long splint applied from the hip The back bearer will unlock the lever and the party move off

The bearers could obtain rest either by working in relay stages or by providing at intervals poles with a fork or crutch at the top in which the bearing pole could be balanced and the canvas kept off the ground If there should happen to be a convenient dug out or other ledge, the sling can be swung sideways and set down on it The soldiers would always offer a hand for temporary relief With this type of suspension the bearers cannot set down a heavy patient unaided on to the ground on which they are walking, and even with a light patient there is a strain on the knees when attempting to do this On the return journey other bearers could easily carry a 10 stone weight of food and ammunition for distribution along the fire trenches

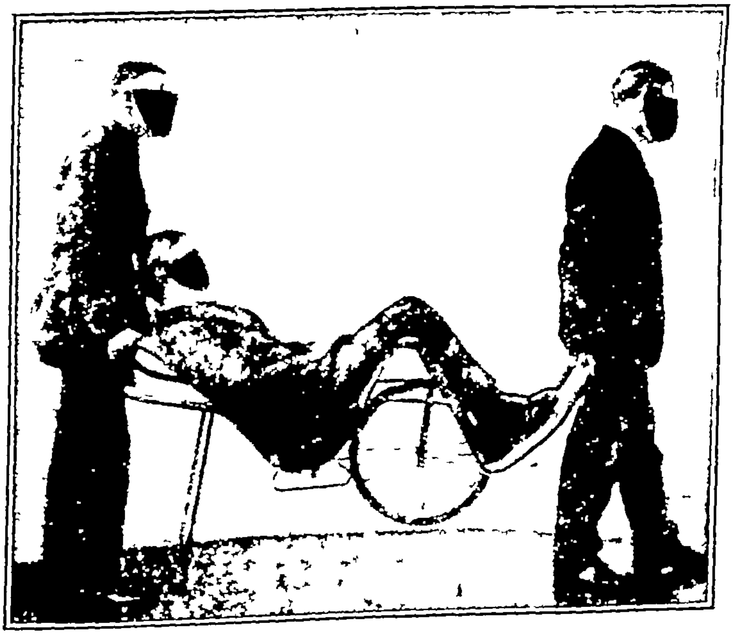
The regulation method of so called shoulder suspension is by a band of webbing as shown in Figs 1 and 2 In actual practice, especially durin lifting and setting down, this becomes raised up on to the bearer's neck and the strain is much greater than it should be, partly, no doubt, owing to actual constriction and partly to the muscular effort compressing the veins of the neck and leading to retention of waste products in the muscles The true shoulder suspension illustrated in Fig 4 is a great improvement, bringing as it does the weight direct on the shoulders and removing it entirely from the neck In the short suspension required for the jointed pole stretcher a difficulty is to obtain arm hole room, and in the case of the actual collar illustrated the bearer has some little difficulty in adjusting the collar himself These objections can be got over by omitting the horizontal back band, lengthening the webbing, crossing the two ends over the back and carrying them round to join the front pieces under the opposite axillæ as shown in Fig 5 This pattern also is more easily constructed In a longer type of webbing suspension these difficulties do not arise and it would be a humane thing if some such

FIG 5



Improved form of the same

FIG 6



The "Fowler position," the right method.

houlder collar as described were substituted for he regulation band now in use The bearers vould not get knocked up nearly so much, n fact, the total gain considered over the whole front after an action would be consider ible Without this improvement the jointed pole stretcher would not have come to fruition, whereas it the present time it would appear to be the only stretcher that will efficiently accomplish its purpose in fire trenches 18 inches to 26 inches wide

In the stretchers described the sling in which the patient is placed is distinctly comfortable to recline in, and the feeling is one of even support for the whole of the body with the exception of the lower part of the legs

The Rigid Method

In the third or rigid method of using the Fowler position the suggestion already referred to, to employ a modified wheelbarrow, has been carried out Fig 6 shows one of the experimental pieces of apparatus, which in this instance has been made of cycle tubing and sheet metal It is 4 ft 6 in long, 15 in wide, and weighs without the under carriage 25 lb When carried it will just negotiate a right angled corner in a trench 29 inches wide, and when wheeled it will pass in one 26 inches wide By reason of its shape the tray portion is a complete natural splint for the head, neck, body, and lower limbs It may be carried tilted up, horizontally, or tilted down and could be swung nearly vertically over the side of a ship or down the shaft of a mine with scarcely any disturbance of a strapped in patient The under carriage for the wheel or wheels can be made detachable, and if conditions for wheeling were suitable it could be left on the return journey at the end of the communication trench ready to be utilised for running the next case along, but if preferred it could be hooked on at the back In order to lessen the load on the back bearer when wheeling the stretcher the axle should be set far back, nearly under the patient s centre of gravity, but unless the height of the axle off the ground is increased this setting back decreases the efficiency in turning a corner Setting the axle well forwards increases this efficiency by reducing the turning length but it would appear to be unlikely that this length between perpendiculars can be reduced below 3 ft 2 in, in which case such a stretcher could just be made to scrape round a corner in a trench 22 inches wide In some trenches illustrated in the weekly papers there is a false bottom of planks under which the water lies In these trenches the use of this pattern of stretcher might be found to be a quick and easy means of moving a patient It is also probable that when perfected it would answer for general transport work, but not necessarily for lying down cases when deposited in casualty clearing stations or ambulance vans The manufactured article would be a simple tray of metal stamped in one piece and rimmed up with light tubing After removing the under carriage such stretchers could be packed up like saucers one on the top of the other, and so be made easily portable for use in quantity In civil work, and perhaps in some forms of military work four wheels would be used with this form of stretcher Owing to the difficulties of obtaining materials and labour the further experiments with this type of stretcher are likely to take a considerable time I therefore thought it best to publish this article now instead of waiting for their completion, so that others may be able to assist

The photographs from which the illustrations have been made were taken by Messrs G and W Morgan, of Aberdeen, who have spared neither pains nor experience to illustrate the details In carrying out the designs and trials, the help and suggestion of numerous friends have been invaluable, and I take this opportunity of offering them my grateful thanks There is little doubt that others will already have thought of and tried some of the general designs, especially the more simple ones, indicated in this article, and in this respect I particularly do not wish to claim priority The matter seemed to me to be an important one, and as such to be deserving of attention I hope that the general outline given of this particular part of the subject—viz, the utilisation of the Fowler position for carrying patients in stretcher work—may help towards a practical solution of the problem

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CANADA

(FROM OUR OWN CORRESPONDENT)

Vital Statistics in Canada

ONTARIO has probably the best system of registration of any of the provinces of Canada, as regards births, marriages, and deaths It has been registering for over 45 years, but it is claimed that one in every five births escapes registration Canada is said to be very far behind other British Overseas Dominions in regard to the compilation of vital statistics, and if the above statement is correct—and there seems to be no doubt of it as it comes from a responsible source—then the other provinces of Canada which are not up to the standard of Ontario in health matters must have a very nominal vital statistics department

An Important Legal Decision

An action was recently brought against a Canadian general practitioner The plaintiff was a woman who consulted her physician about a lump in her breast The physician, at the time of the examination, detected a lump in the other breast as well A surgeon was consulted and the first breast was removed At the operation, and while the patient was still under the anæsthetic, the physician told the surgeon there was a lump in the other breast and that he had secured the patient's consent to the removal of both lumps The double operation was done Some time later trouble arose in the arm corresponding to the second operation An action was brought against the surgeon for assault, the patient claiming that he had not had her consent to the double operation The case came to trial, and there was a conflict of evidence between the patient and her physician, the latter claiming that the patient had given to him her consent for the removal of the second breast Having heard a considerable amount of evidence in the case, the justice held that a surgeon is justified in performing an operation additional to the original one where the case demands that more be done than was at first considered proper A surgeon might, in fact, be open to blame if he failed to perform a second operation where he found such necessary for the cure of the patient

The Universities, the Medical Council, and the Ontario Medical Commission

President Falconer, of the University of Toronto, appeared before the Ontario Medical Commission, which is inquiring into the regulation of medical practice in that province, and stated that dual control of examinations by the universities and the Medical Council was humiliating He contended that once a student of medicine got his degree he should be entitled to practise At present the degree of the University of Toronto was at a disadvantage throughout the empire The Ontario Medical Council did not recognise it, consequently it could not be recognised by the General Medical Council of Great Britain The Ontario Medical Council now has the legal right to set the course of the University curriculum A few years ago it gave up holding primary examinations, but retained the final examinations Counsel for the Medical Council of Ontario held that the final examination by the Council was necessary in order to show that after his five years' tuition at the University the student was really efficient to practise The Council, whilst admitting that the medical student has undergone satisfactory academic training, has no means of confirming this other than by examination Thus the universities and the Council are pulling against each other before the Commission The universities wish for full control over examinations, thus relegating to the Medical Council a purely disciplinary function over the profession in the province

Free Serums for Ontario

The Ontario Board of Health has undertaken to supply free practically all the serums of different kinds used in that province The annual saving to the people will run into tens of thousands of dollars Of diphtheria antitoxin alone it is expected that 150,000 to 200,000 doses will be needed per annum and about 500,000 doses of antityphoid vaccine The latter has already been supplied gratis to the troops of the whole Dominion of Canada, as well as to those of Newfoundland One circumstance largely responsible for the adoption of this principle by the Board of Health was the observation of the results of the gratuitous distribution of diphtheria antitoxin in Toronto The general death rate in Toronto from diphtheria is 16 per cent, while in the Toronto Isolation Hospital, where the severest cases are generally found, the death rate was only 6 per cent In the hospital the serum was supplied free and in large doses Last year the Board of Health was able to supply diphtheritic serum at a quarter of its original price and this has paved the way for the general manufacture of serums by the province

Toronto Jan 4th

CENTENARIANS —Mrs Mary Paige, of Albany-road Rochester, has celebrated the 100th anniversary of her birthday and has received a congratulatory letter from the King She was born at Launceston Cornwall —The death is announced of Mrs Rebecca Law an inmate of Saffron Walden Union, at the age of 102 She was in possession of all her faculties

DONATIONS AND BEQUESTS —The Aberdeen Royal Infirmary has benefited to the amount of £700 under the will of the late Mr Alexander Fitchet of Carnoustie The sum is to be paid free of duty —Cardiff Hospital has recently benefited by an anonymous gift of 10,000 guineas towards the cost of new extensions and by a donation of 1000 guineas to endow a bed by Messrs Watts Watts and Co coalowners The hospital has received four gifts of a like amount from various donors during last December

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE undermentioned have been entered as Sur temporary service in His Majesty's Fleet —Dated Jan Robert Aitken and Samuel Parker Mort.

ARMY MEDICAL SERVICE

Lieutenant-Colonel Joseph F M Kelly to be temp Colonel whilst employed as Assistant Director of M Services of a Division (dated Dec 7th)

Major William M B Sparkes to be temporary Lieu Colonel whilst Acting Assistant Director of Medical Ser of a Division (dated Nov 20th)

ROYAL ARMY MEDICAL CORPS

Temporary Major Charles S Myers to be temp Lieutenant-Colonel (dated Jan 18th)

Temporary Captain Robert J D Irvine to be temp Major (dated Jan 14th)

Temporary Lieutenant William J G Garton to be tem porary Captain (dated Dec 7th)

Temporary Lieutenant Norman K Wilson to be temp Captain (dated Jan 15th)

Temporary Honorary Lieutenant Angelo M Cab relinquishes his commission on ceasing to serve with New Zealand War Contingent Hospital (dated Jan 3rd

The undermentioned to be temporary Lieutenants —

Dated Dec 27th Evan Parry Evans

Dated Dec 28th Joseph Chamney Atkinson Rid Helton Godwin Baynes, Henry Currie Watson, Fr George Thomson, Henry Stewart, John Patrick O Co James Dewar Robertson, Henry Catling and S Langstaff Haslett

Dated Dec 29th Hubert Sewell Sims and Reginald Moore

Temporary Lieutenant-Colonel Leonard S Dal relinquishes his commission (dated Dec 27th)

Temporary Captain Charles N Binney relinquishes commission (dated Dec 10th)

The undermentioned temporary Lieutenants relin their commissions —

Dated Oct 24th John W O Farrell

Dated Nov 1st James W Richardson

Dated Nov 2nd Francis K Kerr

Dated Nov 10th Denis G Halsted

Dated Nov 17th Maurice C Turiansky

Dated Dec 1st Charles W Hamilton, Joseph L Bar Ricardo Cope, Arthur N Leeming, Joseph G Macq Andrew T Ross John F Gibbons William J I Ma Mackenzie Douglas and John C L Day

Dated Dec 4th Reginald W Clark, John G McDou William G Helsby and James Potter

Dated Dec 7th Charles C Holman, Lynne Bor John C McConaghey, Roderick A Campbell, and R Fleming

Dated Dec 10th Wilfred H W Attlee and Allan F Wilson

Dated Dec 14th John Anderson, Richard F Worthin ton, and Walter J Harper

Dated Dec 15th William F Dunlop, Horace F H Tracy, George B Horrocks and George J B Candler Ho

Dated Dec 16th William Readman, Charles T Bishop, Ernest G Wheat, John Duffin, Edward H A Pask an Douglas Elder

Dated Dec 17th Bertram M Bone

Dated Dec 18th William McH Binning and George F Phillips

Dated Dec 28th Michael Sullivan, John H Dougl Sylvester D Fairweather and Herbert D Robertson

Dated Dec 30th Richard F Sedgwick and Willia Taylor

Dated Jan 16th Randal MacCarthy

Overseas Contingents

The British West Indies Regiment

Albert James Clarke to be Surgeon Captain (dat Sept 18th)

The undermentioned to be Surgeon Lieutenants —

Dated Sept 19th William Steele Mitchell

Dated Nov 8th Aldington George Curphey

Canadian Army Medical Corps

Major E B O Reilly, Canadian Militia, to be temp Major (dated Dec 22nd)

Captain C D H McAlpine to be temporary Major (Oct 28th)

E Goulden to be temporary Captain (dated Dec 4 h)

The undermentioned Lieutenants to be temp Lieutenants —

Dated Dec 18th Harold Ernest Brown Larrent L Hill William Arthur Rupert Michell James Hen Egbert Theodore George Harwood Drake M Aloysius Kenny

TERRITORIAL FORCE

Royal Army Medical Corps

ith Western Mounted Brigade Field Ambulance Lieu
it Wilfred S Soden to be Captain

me Counties Field Ambulance Lieutenant George
ip to be Captain

s Lancashire Field Ambulance Captain James Wood
e temporary Major Norman Stuart Jeffrey (late
ain the King's Own (Royal Lancaster Regiment)) to
iptain

ndon (City of London) Field Ambulance Joseph Howell
d to be Lieutenant

ssex Field Ambulance Captain Arthur C Hincks to be
ain

rthern General Hospital Captain Colin Mearns, from
humbrian Casualty Clearing Station, to be Captain
r Albert S F Leyton is seconded Captain Graham
impson is seconded whilst holding a temporary com
ion as Major in the Royal Army Medical Corps The
rmentioned are seconded Major Arthur J Hall Major
rt E Naish, Captain William H Nutt and Captain
h A. Hepworth The undermentioned Lieutenants to
Captains John Stokes, William W N King, and
odore Allen

ndon Sanitary Company The undermentioned Lieu
nts to be Captains James E Wilson Cuthbert E C
ey Walter D Carruthers Archibald Romanes Colin C
Harry G A Pearson, and George S Hoffman
tain Herbert Beeney is placed temporarily on the retired
list on account of ill health Charles Herbert Lilley to
ieutenant

ondon Casualty Clearing Station The undermentioned
itenants to be Captains Allan C Pearson and John
Methven

orthumbrian Casualty Clearing Station Captain
derick John Nattrass, from Northern General Hospital,
e Captain

elsh Border Mounted Brigade Field Ambulance Lieu
ant (temporary Captain) Robert Francis Gerrard to be
tain

as Anglian Field Ambulance Major William J Caie
inquishes his commission on account of ill health

Vessex Casualty Clearing Station Captain Alfred Cole
ge from Attached to Units other than Medical Units,
be Captain

ondon (City of London) Sanitary Company The under
ntioned to be Lieutenants Wilfred Samuel Hamilton
mpbell Corporal Norman Shirley Golding (from
nadian Expeditionary Force) William Alexander Francis
lfour Browne and Alfred Reid

Vest Lancashire Divisional Sanitary Section Lieutenant
lliam H Hill, from London Sanitary Company, to be
eutenant

*upernumerary for Service with the Officers Training
r*s —Lieutenant Wynfrid L H Duckworth to be tem
rary Captain whilst serving with the Medical Unit of the
mbridge University Contingent, Senior Division, Officers
aining Corps Arthur Wyndowe Willert Baker to be Lieu
nant for service with the Medical Unit of the Dublin
niversity Contingent Senior Division Officers Training
rps

ttached to Units other than Medical Units —Surgeon
ajor Robert B Purves from the Lincolnshire Yeomanry,
be Major Captain Herbert E Murray relinquishes his
mmission on appointment to the Indian Medical Service
be Captains Lieutenant John Wood and Lieutenant
exander Silbermann To be Lieutenants William Henry
ichley John Livingston Hamilton and Frederick Joshua
ie Saunders

Lieutenant Colonel A. D Sharp C M G, has been
pointed Assistant Director of Medical Services to the
h (West Riding) Division B E F

PLYMOUTH HOSPITAL SUNDAY FUND —At a
ent meeting of the committee of this Fund the sum of
5[illegible] was allocated to eight local hospitals and dispensaries

DEATH OF MR REGINALD KŒTTLITZ, J P —
he death is announced from Somerset East Cape Province
th Africa where he lived of Mr R Kœttlitz, senior
[illegible] with Captain Scott's Antarctic Expedition on board
e *Discovery* Mr Kœttlitz who received his medical
[illegible] Guy's Hospital was a born wanderer Previous
his voyage in the *Discovery* he acted as medical officer to
e Jackson Harmsworth Polar Expedition to Franz-Josef
and and afterwards accompanied expeditions to Abyssinia
[illegible] and Brazil His services to the Scott Expedition
[illegible] Glacier was

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50 000 persons at the last Census, 7665 births and 4850 deaths were registered during the week ended Saturday Jan 15th The annual rate of mortality in these towns which had been 14 9, 16 6, and 14 3 per 1000 in the three preceding weeks, fell in the week under notice to 13 9 per 1000 of their aggregate population, estimated at 18,136 180 persons at the middle of the year 1914 During the 13 weeks of last quarter the mean annual death rate in these towns averaged 15·5, against a corresponding rate of 16 2 per 1000 in London The death rate last week ranged from 6 8 in Southend on-Sea, 8 2 in Bath, 8 6 in Ilford 8 7 in Wolverhampton and 8 9 in Swindon, to 19·0 in Middlesbrough, 19 8 in Barrow in Furness, 19·9 in Walsall, 20 1 in Dudley, 20·3 in Barnsley, and 21 5 in Stockport

The 4850 deaths from all causes were 140 fewer than the number in the previous week and included 329 which were referred to the principal epidemic diseases, against 355 and 312 in the two preceding weeks Of these 329 deaths, 84 resulted from diphtheria, 78 from whooping-cough, 75 from measles 60 from infantile diarrhœal diseases, 23 from scarlet fever and 9 from enteric fever, but not one from small pox. The annual death rate from these diseases was equal to 1·0, or 0 1 per 1000 higher than in the previous week The deaths attributed to diphtheria, which had been 61, 79, and 61 in the three preceding weeks, rose to 84 and included 19 in London 4 in Liverpool and 3 each in Hornsey Portsmouth, Birmingham Sheffield, and South Shields The deaths referred to whooping-cough, which had been 69, 60, and 57 in the three preceding weeks rose to 78 of which 15 were registered in London, 8 in Liverpool, 6 in West Ham, and 5 each in Willesden and Sheffield The fatal cases of measles, which had been 84, 100 and 81 in the three preceding weeks, further fell to 75, the highest annual death rates from this disease were 1 4 in Bristol, 1 7 in Exeter and Stockport, and 2 5 in Leicester The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 68, 80 and 73 in the three preceding weeks, further fell to 60 and included 20 in London and 4 each in Manchester and Middlesbrough The deaths referred to scarlet fever, which had been 28 22, and 30 in the three preceding weeks, fell to 23, of which 7 occurred in London and 2 in Stoke-on Trent The fatal cases of enteric fever, which had been 9, 14, and 10 in the three preceding weeks, numbered 9, and included 3 in London and 2 in Tynemouth

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2462 2464 and 2325 at the end of the three preceding weeks fell to 2224 on Saturday last; 244 new cases were admitted during the week against 206 254, and 225 in the three preceding weeks These hospitals also contained on Saturday last 1476 cases of diphtheria, 59 of enteric fever 59 of measles, and 14 of whooping-cough, but not one of small pox. The 1161 deaths from all causes in London were 8 in excess of the number in the previous week and corresponded to an annual death rate of 13 4 per 1000 The deaths referred to diseases of the respiratory system, which had been 329, 346 and 246 in the three preceding weeks, rose to 264 in the week under notice, but were 208 below the number registered in the corresponding week of last year

Of the 4850 deaths from all causes in the 96 towns, 183 resulted from different forms of violence and 395 were the subject of coroners' inquests, while 1394 occurred in public institutions The causes of 37, or 0 8 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Sheffield, Leeds, Bristol Bradford, Hull, and in 73 other smaller towns Of the 37 uncertified causes, 8 were registered in Birmingham, 6 in Liverpool 3 each in Manchester and Tynemouth, and 2 each in Bootle, Preston, and Gateshead

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2 355 300 persons at the middle of this year 1091 births and 696 deaths were registered during the week ended Saturday, Jan 15th The annual rate of mortality in these towns, which had been 17·0, 17·4 and 15·9 per 1000 in the three preceding weeks fell to 15·4 per 1000 in the week under notice During the 13 weeks of last quarter the mean annual death rate in these towns averaged 17·9 against a corresponding rate of 15 5 per 1000 in the large English towns The death rate during the week ranged from 6 2 in Motherwell 9 1 in Clydebank, and 12 7 in Leith to 19 5 in Coatbridge 21·5 in Greenock, and 22·9 in Kirkcaldy

The 696 deaths from all causes were 23 fewer than the number in the previous week, and included 66 which were referred to the principal epidemic diseases, against 74 and 72 in the two preceding weeks Of these 66 deaths 23 resulted from measles, 13 each from diphtheria and infantile diarrhœal diseases, 11 from scarlet fever 5 from whooping-cough, and 1 from enteric fever, but not one from small pox The annual death rate from these diseases was equal to 1 5, against a corresponding rate of 1 0 per 1000 in the large English towns The deaths attributed to measles, which had been 16, 26, and 17 in the three preceding weeks, rose to 23, and included 7 in Glasgow, 6 in Greenock, 4 in Edinburgh, and 3 in Hamilton The deaths referred to diphtheria, which had been 8, 11, and 19 in the three preceding weeks, fell to 13, of which 5 were registered in Glasgow, 3 in Edinburgh, and 2 in Paisley The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 11, 11, and 10 in the three preceding weeks, rose to 13, and included 7 in Glasgow The deaths attributed to scarlet fever, which had been 12, 21, and 18 in the three preceding weeks, fell to 11, and comprised 7 in Glasgow, 3 in Edinburgh, and 1 in Paisley Of the 5 deaths from whooping-cough, which were slightly in excess of the average in recent weeks, 3 were registered in Glasgow The fatal case of enteric fever was recorded in Edinburgh

The deaths referred to diseases of the respiratory system, which had declined from 322 to 139 in the seven preceding weeks, further fell to 114 in the week under notice, and were 161 below the number registered in the corresponding week of last year The deaths from violence numbered 33, against 32 and 42 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 19 town districts of Ireland, with populations exceeding 10,000 persons at the last Census, 573 births and 463 deaths were registered during the week ended Saturday, Jan 8th The annual rate of mortality in these towns, which had been 22 4, 17 3, and 24 2 per 1000 in the three preceding weeks fell in the week under notice to 21·0 per 1000 of their aggregate population estimated at 1,148,468 persons at the middle of last year During the week the death rate was equal to 20 3 in Dublin (against 13 3 in London and 15·0 in Glasgow), 19 8 in Belfast, 25 8 in Cork, 20 2 in Londonderry, 17 6 in Limerick, and 49 4 in Waterford, while in the 13 smaller towns the mean death rate was 19 8 per 1000

The 463 deaths from all causes were 71 fewer than in the previous week, and included 29 which were referred to the principal epidemic diseases, against 37 and 59 in the two preceding weeks Of these 29 deaths, 9 resulted from measles, 8 from infantile diarrhœal diseases, 4 each from scarlet fever and whooping cough, 3 from diphtheria, and 1 from enteric fever, but not one from small pox The mean annual death rate from these diseases was equal to 1 3, against corresponding rates of 0 9 and 1 6 per 1000 in the English and Scotch towns respectively The deaths attributed to measles, which had been 18, 19 and 23 in the three preceding weeks fell to 9, and comprised 5 in Dublin, 3 in Belfast, and 1 in Cork The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 9, 8, and 9 in the three preceding weeks, numbered 8 of which 3 were recorded in Belfast and 2 in Dublin The fatal cases of whooping-cough, which had been 8, 4, and 12 in the three preceding weeks, fell to 4, and included 2 in Belfast The deaths attributed to scarlet fever, which had been 7, 3, and 9 in the three preceding weeks, declined to 4, and comprised 3 in Belfast and 1 in Dublin The 3 fatal cases of diphtheria, of which 2 were registered in Dublin and 1 in Belfast, were equal to the average in the three preceding weeks The death from enteric fever was registered in Waterford

The deaths referred to diseases of the respiratory system, which had been 116, 92, and 147 in the three preceding weeks, fell to 114 in the week under notice, and were 51 below the number registered in the corresponding week of last year Of the 463 deaths from all causes, 145, or 31 per cent, occurred in public institutions, and 15 resulted from different forms of violence The causes of 16, or 3 5 per cent, of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest in the large English towns the proportion of uncertified causes did not exceed 0·9 per cent

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LECTURES ON MILK, ITS SUPPLY AND DISTRIBUTION —Commencing on Jan 20th a course of ten lectures on these subjects will be given at the South Western Polytechnic Institute Manresa road Chelsea The lectures which will be given on successive Thursday evenings at 7 30 P M have been arranged for those engaged in the milk trade or in institutions where milk is largely consumed, and for sanitary and food inspectors A practical class for simple laboratory work will be held immediately after the lectures

Correspondence.

"Audi alteram partem"

FUNCTIONAL NERVOUS DISEASE

To the Editor of THE LANCET

SIR,—In your issue of Jan 15th under the above heading there is a letter of very great significance from Dr C A Mercier criticising the so called method of psycho analysis, which has taken the place of the older method of observation and induction, hitherto called psychological analysis, the assumed utility of the former claiming for it the fresh title of the "new psychiatry" Those whose lives have been devoted to the investigation of nervous and mental disorders have attributed the causes of these pathological conditions to lie among the factors of heredity, environment, education, fatigue, and various toxins generated from within or introduced from without, but they have not excluded the disturbing effects of strong emotion, grief, anxiety, worry, or any moral shock

The school of psycho analysis introduced by Freud has depicted man as a beast or animal dominated by crude instincts and base passions—a natural corollary to the teachings of Nietsche, Treitschke, and Bernhardi—and their set purpose is to discover some unpleasantly painful or shameful event in the past history of the patient because these are taken to be the root cause of most cases of mental perversion, and also because sexual matters are looked upon as the bedrock of most cases of insanity This hypothesis is not only unjustifiable but unproven, and it is moreover, an insult to the clean mind of an innocent sufferer, and I join in the strong remonstrance so ably put forward by Dr Mercier, who is a mental physician, a physiologist, and psychologist of the highest standing In season and out of season Dr Mercier has called attention in the public press and elsewhere to the gross injury caused to the patient by the practices of this school designated as the "new psychiatry I can quote from personal experience the actual damage done by the psycho analyst through suggestions made of lewd, objectionable, and bestial thoughts to the moral feelings of an unsuspecting mind I fully admit that much has been done by some psychologists to elucidate facts in the unconscious field, but I question whether one single case has ever recovered through psycho analysis It is within the knowledge of every practising physician that certain sensations or experiences are able to determine certain attitudes of mind after the memories of the former had faded, and the hypothesis that the memories of past experiences are potential agencies in determining certain abnormal mental states is an acknowledged truth, but it is not proved that these are based upon "sexual traumata,' whatever this may mean

I speak with some authority as a teacher of mental diseases in one of the largest metropolitan schools of medicine, as a former examiner in the subject at the London University, and as the resident physician of one of the largest asylums in this country, and I have no hesitation in affirming that the practice of the psycho analysts should be repressed with all the strength and force of a controlling hierarchy—if such there be ' As has been truly said, "a diagnosis in the Freudian sense is a diagnosis of the mind that made it" I am not in sympathy with much that has been said recently by English followers of Freudism, and it is satisfactory to know that for some time past the chief exponent of this doctrine in Europe, K. Jung, of Zurich, has broken with the school upon certain points

I repeat, from my own practical experience and knowledge of the effects of psycho analysis upon those among whom the craft is practised, that in so far as it is a probing for hidden and forgotten sexual occurrences, it is repulsive and disreputable, ethically objectionable and deserving of the strongest condemnation

I am, Sir, yours faithfully,
ROBERT ARMSTRONG JONES, M D Lond

Claybury Jan 19th 1916

SHRAPNEL WOUNDS

To the Editor of THE LANCET

SIR,—A large number of injuries caused by shell fire are now very generally described as "shrapnel wounds," and this would appear to be a curiously erroneous description The shrapnel shell, called after its inventor, Lieutenant, afterwards Lieutenant General, Shrapnel, Royal Artillery, and brought into the service in 1803, is a projectile in which a small bursting charge opens the shell and liberates the bullets with which it is packed In its present form it takes the shape of the ordinary elongated projectile, and consists of a thin steel casing, in the base of which is a small charge of black powder At the upper end, and partially forming the coned top, is a time and percussion fuse, the flash from which is communicated to the bursting charge by a tube passing down the interior of the shell Round this tube are packed spherical bullets of lead hardened with antimony, and varying in number and weight with the calibre of the gun, the interstices being filled in with resin poured in in the melted state Before firing the time arrangement of the fuse is so set as to ensure the burst taking place at the most effective distance short of and above the objective. On the ignition of the bursting charge the fuse is blown out, together with the coned top of the shell, the latter being only lightly attached to the body, and the bullets thus liberated fly forward in a cone with the velocity that the shell then has, the steel body travelling on intact Should the time arrangement be set too long, the percussion part of the fuse ensures the shell opening on impact, but to be effective against troops in the open the shell should burst in the air From the above it will be seen that shrapnel shells have practically no fragments, and distribute no splinters

As an illustration of the fact that the word shrapnel is commonly used to express fragments or *mitraille*, I may say that when pointing out to a police inspector how much damage had been done to the walls and doors by the stones in the reinforced concrete floor, in a building in which a Zeppelin bomb had fallen, he said, "Yes, sir, bits of shrapnel I now find that this misuse of the word has become general and that wounds obviously inflicted by the sharp, jagged splinters of a high explosive common shell are described as shrapnel wounds whereas those caused by shrapnel bullets are always—and rightly—classed among bullet wounds There are both in our service and in that of the enemy a few high explosive shrapnel which do break up and distribute splinters but the fuse for these is so complicated since this projectile is meant to serve both purposes—i.e, the ordinary and the high explosive shell—that its use is very limited We may say, then, that the so called shrapnel wounds are invariably wrongly described, as this projectile is the only one which, on the explosion of its bursting, or more properly opening, charge does not distribute splinters

I am, Sir, yours faithfully,
DESMOND O CALLAGHAN,
Major-General.

Jan. 18th 1916

A CASE OF MASKED MALARIA

To the Editor of THE LANCET

SIR,—Mosquitoes are common in Accra, especially in the native quarter, those of the genus Stegomyia being most frequently met with. Anophelines, though less common, are also seen In the European residential quarter, however, where sanitary measures are more under control, it is the exception to find anopheles or, in fact, any type of mosquito Despite this fact, malarial fever amongst the European population is often met with, the prevalent type being subtertian The following is a case in point

The patient, a European aged 33 years arrived in the Colony early in August, 1914 For the first two months he was engaged in work which took him to Lome (Togoland) and to Duala (Cameroons) At these places he was severely bitten by mosquitoes On his return to the Gold Coast he was stationed in Accra The patient was addicted to alcohol, and would consume "the best part of a bottle of whisky a day" Quinine was taken very irregularly Two months previous to the date of his admission to hospital he began to complain of feeling "off colour," vomited occasionally, and had irregular slight rises of temperature Only on one occasion prior to admission was he so ill as to necessitate his absence from duty for two days He also suffered from insomnia, but this did not react upon his health in any appreciable way, he was throughout active and cheerful.

On August 21st, 1915, he was admitted to the Accra Hospital, and I am indebted to the senior medical officer in charge, Dr J H Collier, for the clinical notes

On admission there was no fever, but the patient vomited once or twice Two thin blood films were at once sent to the laboratory for examination this being the routine procedure Young ring forms of P falciparum were found in fair numbers averaging 5 in a high power field A differential count gave the following percentage readings polymorphonuclears 48, large mononuclears 14, lymphocytes, 35, and basophiles 2 Vomiting ceased the day after admission and the patient was practically well On Sept 3rd another examination of his blood showed numbers of subtertian gametocytes (crescents), one crescent in eight fields, and the differential count was polymorphonuclears 55 per cent, large mononuclears 12, and lymphocytes 33, with marked leucopenia The temperature remained subnormal, and the patient continued to show no clinical indication of the malarial infection in his blood During his stay in hospital he received 5 grains of quinine daily

The outstanding features of this rather unusual case are 1 The total absence of fever and other symptoms of a malarial infection, notwithstanding the heavy infection of the patient s blood and the proved activity of the parasites, as evidenced by their progressive development from rings to crescents 2 The marked leucopenia and the absence of any sign of phagocytosis 3 The large number of crescents in the peripheral circulation, a rather unusual occurrence for it is generally held that, owing to their tendency to clump, these forms are frequently arrested in the finer capillaries of the internal organs, spleen, brain, &c, and that it is by virtue of this property that the pernicious symptoms of a subtertian infection are brought about

In his "Prevention of Malaria," under the heading of "The Appearance of Sexual Forms," Sir Ronald Ross states —

> The malignant gametids begin to appear about a week after the onset of the fever, and may remain circulating in the blood for several weeks We do not know what determines their appearance, but the asexual forms and the fever frequently vanish when they appear

Again, under the heading "The Parasites during the Rallies," the same writer states —

> In the rallies between relapses, few sporids frequently none at all, can be discovered, though gametids which do not seem to produce fever may still abound

Here, then, is a partial explanation of the absence of fever in this case, the cause of the absence of fever at a time when sporids were in abundance is, however, not very evident

Finally, under the heading "Probable Causes of Rallies and Relapses" Sir Ronald Ross states —

> Cases are often reported in which the patient during relapses suffers from malaise dyspepsia and so on, rather than fever, although parasites are numerous enough to be found In such, I presume, the antitoxic power of the blood has become better developed than the germicidal power

Herein perhaps lies the second half of the explanation of this case, though one is tempted to ask what determines the development of the antitoxic power of the blood at the expense of the germicidal power? If we assume that the absence of fever and of the usual clinical manifestations of malaria is the result of antitoxin sufficiency then the patient in this case was well protected. If, on the other hand, the presence of fever is an index of reaction to infection on the part of the body, and a phenomenon in the course of phagocytosis and bacteriolysis, then, in the absence of evidence of reaction, we must assume that despite his appearance of well being, the patient was, or would soon be, in a dangerous condition, one perhaps in which the slightest determining cause would precipitate pernicious symptoms, such as coma or blackwater fever Had the amount of alcohol taken, by virtue of its vaso dilator effect on the peripheral vessels and its depressant effect on the thermogenetic centre, any bearing on the case, and is not the presence of a large number of crescents in the peripheral circulation and the absence of fever to be thus explained? Personally I am inclined to the opinion that the case was one in which the symptoms of malaria had been masked by alcohol, and it seems to me that "masked" malaria, as distinguished from "latent" malaria, may be brought about by influences other than alcohol, and that such a condition frequently precedes an attack of blackwater fever, though of course in these cases the blood infection may not be so evident —I am, Sir, yours faithfully,

SAM L BROHIER, M.R C S Eng , L R C.P Lond ,
D P.H Lond , L M S Ceylon ,
West African Medical Staff

The Laboratory Accra Gold Coast Colony Nov 26th 1915

ILLUMINATION IN OPERATIONS

To the Editor of THE LANCET

SIR,—After experimenting with ceiling lamps distributed in various positions, the writer has found the following arrangement to be very satisfactory and has used it in his theatre for the last three years Four electric lamps, each of 60 candle power and enclosed in elongated glass globes, are attached to the ceiling, which is 13 feet above the floor The lamps are arranged 1½ feet apart, in a single row above the operation table in its long axis and give a brilliant light remarkably free from shadows The glass globes are watertight and allow of the ceiling being hosed with the rest of the theatre For operating at the bottom of long and narrow cavities either a reflected light or a small lamp of the cystoscope type inserted in the cavity is usually essential

For operations performed in daylight a theatre with a south, rather than the usual north, aspect has considerable advantages, which include an excellent light, even on dull days, and a natural warmth which minimises the amount of artificial heating required —I am, Sir, yours faithfully,

Plymouth Jan 12th 1916 C HAMILTON WHITEFORD

LOSS OF SPEECH AND SHELL-SHOCK

To the Editor of THE LANCET

SIR,—During my 22 years' service in the army I can recall five cases of men having been brought to hospital suffering from sudden loss of speech due to shock I found they were all cases of malingering and recovered their voice under an anæsthetic Ether is the anæsthetic to give, and it is well to keep the patient under it for half an hour, and he will have plenty to say when he recovers —I am, Sir, yours faithfully,

J McLAUGHLIN, M D
Lieutenant-Colonel (late) R A.M C

Bangor Jan 10th 1916

THE PREPARATION OF CATGUT BY PICRIC ACID AND OIL OF CLOVES

To the Editor of THE LANCET

SIR,—The method of preparing catgut suggested by Roeder is very simple and inexpensive The raw gut is placed in a saturated solution of picric acid in oil of cloves for one week, rinsed thoroughly for about ten seconds in sterile water or a 1/5000 bichloride solution to remove the oil globules clinging to the surface, and then stored in 95 per cent alcohol In four days it is ready for use Before placing the gut in the saturated solution of picric acid and oil of cloves I prefer to formalise it in a 5 per cent solution for 24 hours, this modification undoubtedly gives the gut additional strength and keeps it from swelling The acid and the oil both being soluble in alcohol are extracted to a considerable extent from the catgut, rendering the suture unirritating to the tissues

The advantages claimed for the method are these The gut is rendered absolutely sterile throughout, as the picric acid and oil of cloves have marked penetrating powers The oil of cloves, besides being a powerful germicide, renders the gut pliable very strong, and less quickly absorbed, and, further, the gut does not deteriorate with storage I have used the slightly modified Roeder method of preparation for some months with gratifying results, and can recommend it with confidence as one of the best for the preparation and sterilisation of catgut

I am, Sir yours faithfully
J D SIRID SINCLAIR, M B CH B Glasg.
Resident Medical Officer Bolingbroke Hospital

Jan 12th 1916

CANCER AND HEREDITY

To the Editor of THE LANCET

SIR,—Though an isolated case in the experience of one individual be of dubious value the collation of such instances may be of some importance With the latter object in view I venture to bring to your notice the following family history with which I have recently become acquainted

A had six brothers, four of these married, all dying without issue A himself died at the age of 36 from pyloric cancer He had three daughters and five sons The eldest, a daughter (B) died, unmarried, from carcinoma mammæ Five of his children married, two died childless, the eldest son had one child, a girl, who died young, a daughter married twice, having one child by each husband, and both died young Another son (C) died, aged 67, from cancer of the bowel, his wife's mother and sister, as well as an old servant who lived with them, all died from cancer in the same house Another son has two children, the only representatives of the third generation, and the father in law of one of these died from cancer

It would seem almost as though the *vis medicatrix naturæ* were applied in this family to suppress it, for three members of it have died from cancer, six are childless, and two others who have married into other families with a history of cancer are also childless A comparable case is recorded in the *Gazette des Hôpitaux* for May, 1914 This refers to an officer of the First Empire who died from cancer of the stomach cancer appeared in the two succeeding generations of his descendants These may be coincidence, but abundant coincidences form a law

I am, Sir, yours faithfully,

Farnborough Jan 16th 1916 JAMES RAE

Obituary

GUIDO BACCELLI

THE "Third Italy' has just lost one of its creators in the veteran clinical teacher and consultant who was revered throughout its borders as typical of the forces, moral as well as combatant, that inspired and promoted that "Risorgimento '

Born in Rome on Nov 25th, 1832, Guido Baccelli possessed a hereditary love of the medical art and began his preliminary studies in the Ghislieri College at Pavia in the early forties of the century Those were the days when Italy was agitated "from the Alps to Etna' with the yearning for freedom and unity, and young Baccelli was among the keenest in the patriotic ranks He ran away from college to enrol among the volunteers and was with difficulty brought back to his studies At the end of the scholastic years indeed he joined the Garibaldini in the defence of Rome against the French till at the close of that heroic but abortive struggle he had to fly the city as an exile That was in the early summer of 1849 and then began those medical studies which were ever after the ruling passion of his life Having graduated with great distinction at the Sapienza, he was, when little over 24 years of age, elected to the chair of Legal Medicine from which after a brilliant discharge of its duties he passed to the professorship of Pathological Anatomy and thereafter to that of Clinical Medicine a post which he never abandoned An admired and diligent student of the great Morgagni he translated and edited the works of that pioneer and followed up his researches on cognate lines corresponding with contemporary German pathologists Leube in particular and introducing while developing their findings in the Roman school He devised methods of diagnosis in thoracic diseases which after their soundness had been confirmed in his own clinique were adopted in other schools, transalpine as well as Italian, and he devoted special study to malarial fever, in connexion with which he published a treatise on the spleen, and drew attention to the phenomena of the 'malaria perniciosa" and the form which he designated "subcontinua." In therapeutics he was among the first to practise intravenous injections of mercury in syphilis, while his experiments in treating traumatic tetanus by the intravenous injection of phenic acid, initiated in 1901, have gradually found acceptance, and in the war now raging on the North Eastern frontier the method is reported to have proved highly successful

With all this varied work he never lost touch with his country's general progress, particularly was he interested in the all important sphere of education With well nigh half of her population unable to read or write, Italy possesses 23 universities, each duchy, archduchy, or kingdom absorbed into her unity having contributed one or more of these "seats of learning" Graduation thus cheapened and utilised, the country became inundated with briefless barristers and practitioners without patients, so as to create that most dangerous of all classes, the "educated unemployed" Having, after his return for a Roman constituency, become Minister of Public Instruction, Baccelli's chief concern was to reduce this plethora of degree giving schools and retain only four, whose efficiency would be ensured by better emoluments for the professoriate, and whose degrees could be accepted as adequate to modern standards Under the present system, he said, "we are creating an 'academic proletariat,' which is responsible for much of the agitation, political and social, which has proved a real hindrance to the country's development" The speech in which he introduced his proposed reform was one of the most memorable ever heard at Montecitorio—a specimen of the finished oratory which he could always command on critical occasions But the short-lived Ministeries in which he held the portfolio left no time for the carrying out of his reforms, and Italy remains, to her own disadvantage, a victim to what he termed "academic hypertrophy" A brief tenure of the Ministry of Agriculture gave him another opportunity of introducing salutary innovations—the reclamation or "bonifica" of the Roman Campagna, but it was always in his control of public instruction that he achieved, wherever practicable, the most conspicuous results An accomplished classical scholar, able indeed on the spur of the moment (as at the Berlin International Congress of Medicine in 1890) to deliver an address in the Latin tongue which from its clear intonation, assisted by attitude and gesture, was wonderfully intelligible and impressive, he took the deepest interest in archæological research, and, aided by the Cavaliere Rodolfo Lanciani, he excavated the Hall of the Vestals and brought to light in the Forum not a few monuments which solve many problems, historic and other, long prolific only of barren discussion

But these undertakings were by works to his main programme, which was to rehabilitate his compatriots, physically, morally, and intellectually, and he laboured throughout his life to develop and to make ever more efficacious the science and art of medicine His crowning effort in this direction was his founding the great hospital of the Policlinico which remains a monument not only of his enlightened acceptance of wholesome suggestions from the outside world, but of that catholicity characteristic of true science which does honour to coadjutors and pioneers whatever their nationality It was this spirit which won for him reciprocal acknowledgment throughout the academic world, corresponding member, or honorary fellow, as he was, of innumerable scientific bodies, medical and other, throughout the two hemispheres His loss to Italy is only less than his loss to the republic of learning, as the condolences which have poured in on his family from far and near abundantly testify At all the medical schools in Italy *oraisons funèbres* have been delivered from the professorial chairs to culminate in that national demonstration of mourning, the State funeral in the Campo Santo of Rome

CHARLES HENRY FOX, M D St AND, F R C P EDIN, M.R C S ENG

THE death of Dr Charles Henry Fox on Dec 25th last, in his seventy ninth year, will recall to alienists the work carried on by the Fox family at Brislington House Asylum, Somerset, for the greater part of the last century, and removes from our midst the sole medical representative of a distinguished family of physicians

Dr Fox was born on June 7th, 1837, at Brislington House, and was the fourth son of Dr Francis Ker Fox, of Brislington House Asylum, and brother of the late Dr Edward Long Fox, of Clifton, Bristol Educated at Shrewsbury, he entered as a student at St George's Hospital in 1855 After taking the diploma of the Royal College of Surgeons of England he went for certain classes to Edinburgh, and in 1860 graduated in medicine at St Andrews The following year he joined his father at Brislington House Asylum, and remained there until 1894 in partnership at first with his father and then with his half brother, Dr Bonville Bradley Fox He retired from practice in 1894 and went to live at Edinburgh, which he chose as his place of residence from his pleasant memories of earlier student life, and where he had many old and valued friends His health became seriously impaired 12 years ago, and for the last few years he had become completely invalided Yet almost to the day of his death he took a keen interest in subjects of which he made a hobby, and preserved his genial disposition and bright conversational powers

NORTHCOTE WILLIAM SPICER, M R C S, L S A

MR N W Spicer died recently at his residence, Chard, Somerset, in his eighty sixth year The deceased was born in Chard, where his father was a well known surgeon He received his medical education at St Bartholomew's Hospital, taking the "College and Hall" in 1853 and 1854 respectively He shortly afterwards joined his father at Chard, and for many years had the leading practice in the district and held the principal medical appointments He was a great supporter of the local hunts, being for a long time honorary secretary to the Cotley Hunt, and was also a frequent follower of the Taunton Vale and the Blackmore Vale Hunts He was for several years president of the Chard Constitutional Club Mr Spicer was highly esteemed and respected in Chard, where he took an interest in all local matters and by his death the profession has lost a much respected representative

THE LATE SIR FREDERIC HEWITT

WE have received many communications, some intended for publication and some not, from friends of the late Sir Frederic Hewitt, deploring his death.

Mr W J McCardie writes —

I wish to add to your notice in THE LANCET of last week a few words of appreciation of my friend the late Sir Frederic Hewitt, whom for many years I have held in honour as a man and in the highest esteem as an anæsthetist His example has stimulated many an earnest follower, and personally I can never forget what I owe to him A simple minded man ever ready to fairly discuss problems in anæsthesia, he was yet strong in his convictions, and would face any opposition even though he were one alone opposed to the views of a large meeting He thought it his duty to agitate for legislation to prevent unqualified practice of anæsthesia, and gave up much of his valuable time in advocating his cause His insistent work for reform in anæsthetics will soon, it is to be hoped, bear full fruit His original and practical work, writings and suggestions in most departments of anæsthesia marked him a master of his art and as the leader among anæsthetists of his time, and he was so regarded throughout the English speaking world He had a natural gift for bringing confidence to patients and producing anæsthesia of the best type He was always evolving some new idea and working it out with his well known thoroughness and perseverance His book on "Anæsthetics and their Administration" is a record of his observations, and is replete with detailed practical and helpful information such as the anæsthetist can hardly get elsewhere I mourn the premature loss of a great-hearted friend and a leader among anæsthetists whose status he did so much to improve His influence will long last

Mr Bellamy Gardner writes —

The powerful influence of Hewitt s judgment and will upon the course of medical practice and opinion, as well as his untiring labours for the advancement of the science and art of surgical anæsthesia have ceased, but his written words remain to remind us of his extraordinary accuracy, assiduous attention to detail and high appreciation of all the responsibilities of medicine He was distinguished for his courage and capacity

Mr John Cahill expresses more particularly the feeling of St George s men in the loss which they have sustained He writes —

To one who has watched his unfailing devotion to his work, from the days of studentship and house officer all through a career of painstaking and deliberate toil culminating in the highest position in an important specialty it seems a marvel that Hewitt should have found the time and energy to maintain in so many and diverse directions the personal intimacy which was his ideal of social life Yet Hewitt was the man who made the social undertakings of his circle a success by his unfailing tact and foresight repeatedly bringing together the friends who would otherwise have drifted apart from himself and from each other In the later and more ample years of successful was at Hewitt s hospitable table that you met the mutual friend whom you might not have seen for half a life time Within recent years it was he who breathed new life into the Students Club of his old medical school bringing into one social organism the scattered units of which it was composed and associating the students of former years with the rising generation of the day The circumstances of his return comparatively late in life to take up a position on the staff of St George s Hospital form a characteristic proof of the value which Hewitt attached to all old friendships and all associations It was at other hospitals that he had been given the opportunities which he had turned to such good account He was then at the zenith of his career and there was no professional or personal advantage to be gained by taking on the fresh duties of the appointment which was offered to him But the assurance that he was wanted by his old hospital and school sufficed to induce his acceptance of the additional burden How loyally and wholeheartedly he responded to the call then made upon him is known to his colleagues and to the governing body of that hospital

The War

THE CASUALTY LIST

THE following names of medical men appear among the casualties announced since our last issue —

Wounded

Lieutenant N S Joshi, I M.S
Captain J A Sinton I M S
Lieutenant Colonel W Ransom, R.A.M C, attached to the 3rd Northumbrian Field Ambulance (T F)
Captain H. S Milne, R A.M C

THE HONOURS LIST

The following promotions and appointments of medical officers are announced —

For Services Rendered in Connexion with the War

To be C B (Military Division) additional Member

Russell Col (temp Surg Gen.) M W., Deputy Director Gen., A.M S

For Services Rendered in Connexion with Military Operations in the Field

To be C B (Military Division) additional Members

Ford Surg-Gen. R W DSO
Grattan Col B B., I M S
Maher Col J A.M S
Sexton Col M J A.M.S
Russell Col J J A.M S
Treherne Col F G., A.M S
Beevor Lt Col (temp Col) W C C M G., R.A.M C
Gray Maj (temp Col.) H M W., R A M C (T F)
Dawson Col (temp) Sir B E., K.C V O R.A.M C (T F)

To be C M G, additional Members

Pike Col W W., D S O A.M S
[illegible] Col C E D S O A.M S
Skinner Col B M., M V O A M S
Smith Lt Col and Bt Col F D S O R A.M C
Hunter Col G D D S O A M S
Atkins Col (temp) J., A.M.S
Lister Col (temp) W T., A.M S
Young Col C A A M S
[illegible] Col S A.M S
[illegible] Col G T A.M S
Wallace Col (temp) C S A M S
T[illegible] Col (temp) H A. R A.M C (T F)
[illegible] Lt Col F R A.M C (T F)
S[illegible] Lt-Col A B R A M C (T F)
Hamilton Lt Col J A. I M S
Sharp Lt Col A D R A.M C (T F)
[illegible] Lt Col (temp Col) H A R A.M C
Milne-Thomson Lt-Col A R A M C (T F)
[illegible] Lt-Col A. W D S O., R A M C
[illegible] Lt-Col G A., R A M C
[illegible] Lt Col J P R A M C
[illegible] Lt-Col C Y., R A M C
[illegible] Lt Col F R.A M C
Nickerson Lt Col W H S V C., R A.M C
Penny Lt-Col F S R.A.M C
Leake Lt Col J W R.A.M.C
Brakenridge Lt Col F J R.A.M C
Chopping Lt Col A., R.A.M C
Douglas Lt Col H E M V C D S O R A M C
Lloyd Lt Col L N D.S O R.A.M C
Watson Hon Lt Col (temp) C G No 1 British Red Cross Hospital
Mackay Maj W B R.A.M.C (T F) attached to Northumberland Fusiliers (T F)
Cruddas Maj H L., I M.S
Black Maj W., R.A M C
Jeudwine Maj W W I M S
Davidson Maj P D S O R A M C
Martin Lt Col T M Commanding No 2 Australian General Hospital
MacLaren Col M Canadian A M C
Nasmith Lt Col G G Canadian A M C
[illegible] Lt Col A E Canadian A M C
Parkes Lt Col W H Commanding New Zealand Hospital

For Distinguished Service in the Field

To be Brevet Colonels

[illegible] Lt Col A [illegible] I M S
S[illegible] Lt Col J W D S O R A M C

To be Brevet Lieutenant-Colonels

[illegible] Maj R., I M S
[illegible] I M S
FitzGerald Maj F G R A M C

To be Brevet Majors

[illegible] Capt M C R A M C
[illegible] Capt [illegible] R A M C
[illegible] Capt C H S R A M C
O[illegible] Capt [illegible] C., R A M C (S R)
[illegible] Capt E C H R A M C

[illegible] D S O

[illegible] Maj [illegible] P R A M C
[illegible] R A M C
[illegible] H J., R A M C
[illegible] J., R A M C (T F)
[illegible] P P R A M C

Campbell, Maj J H., R.A.M C
Easton Maj P G R.A.M C
Hanafin, Maj P J., R.A.M C
Harding Maj D L R A.M C
Hartigan, Maj J A. R.A.M.C
Irvine Maj A. E. S R.A.M C
Kevans Maj G C L. I M.S
Low Maj N., R A.M C
Mewden, Maj A. A., R A.M C
Needham, Maj R. A., I M.S
Ritchie Maj M. B H R.A.M C
Roberts Maj F E. R.A.M C
Roe Maj W F R.A.M.C (T F)
Rogers Maj J S Y, R.A.M C (T F)
Ryan Maj E. R A.M C
Sampson Maj F C., R.A.M C
Smallman Maj A. B R.A.M C
Thompson Maj P J C. R A M C
Turner Maj C H R.A.M C
Downie Capt. J., R.A.M.C. (T F)
Houston Capt J W R.A.M.C
MacArthur Capt. W P., R.A.M.C.
O Neill, Capt E M., R.A.M C
Worthington, Capt F R.A.M C
Steven Lt. (temp) J F R.A.M.C

Awarded the Military Cross

Anderson Capt J W R.A.M.C (T F)
Ballingall Cap D C G R.A.M C
Barrett Cap H. C., R A M C (S R)
Bearn Capt F A. R.A.M C (S R.)
Beddows Capt E. C R.A.M C
Bourdillon Cap (temp) L. G., R A.M C
Boyd, Capt J B M. R A.M C
Chavasse Cap. N G., R.A.M.C (T F)
Compton Cap A. G W R.A.M.C (S R.)
Cormack, Capt H. S I.M S
Cree, Cap (temp) R. E., R.A.M C
Douglas Capt (temp) C G R.A.M C
Dowse Cap J C A. R.A M C (S R.)
Elvery Capt. P G M. R.A.M.C
Errington Cap. E R.A.M C (T F)
Fawn, Cap. E. A. C R.A.M C (T F)
Fletcher Capt (temp.) J H R.A.M C
Foot Cap. (temp) W R.A.M.C
Forgan Capt R. R.A.M.C (S R.)
Gilchrist Cap A. J R.A.M.C (S R.)
Hairsine Capt O R.A.M C (S R.)
Hampson Cap. T R A.M.C (S R)
Howell, Cap F D G R.A.M C
Knowles Capt (temp) B R R.A.M C
Large Cap S D R.A.M C
Lightstone Cap H. R A.M C (T F)
Mackenzie Cap (temp) E. F W R A M C
MacMillan Cap J R.A.M C (T F)
Marsack Cap (temp) J R., R A M.C
McCarthy Capt W H L. R A.M C (S R)
McQueen Cap C., R A.M C
Millar Capt (temp) G., R.A.M C
Miller Cap S R.A.M C (S R)
Miller Capt T M R.A.M.C (S R.)
Murdoch Cap J R.A.M.C (T F)
Nelligan Capt (temp) G E., R.A.M C
Nicholson, Cap R. B I M S
O Keeffe Cap J J R A.M C
Paton, Capt W C I M.S
Petit Cap G., R A.M.C
Robertson Cap (temp) R. C R.A.M C
Sherlock, Cap. H. B., R.A.M.C (S R.)
Somerville Capt (temp) T V R.A.M.C
Smith, Cap. S H R.A.M C
Sparks Capt C W R.A.M C (S R)
Steel Capt O W D., R A.M.C (T F)
Sutton Capt E. A. R A M C
Turner Cap F T R.A.M C
Wallace, Capt Q V B R A.M C (S R.)
Whigham Capt (temp) J R. M R.A.M C
Wood Cap C A., I M.S
Wylie Capt T W R.A.M.C. (S R)
Young Capt. (temp) R F R.A.M C
Dods Capt. J E. Australian A.M C
Guthrie Capt. R.N., New Zealand A.M.C
Cagney Lieut (temp) P R.A.M C
Driberg Lieut (temp) J D R.A.M C
Golding Lieut (temp) H. C R.A.M C
Kirkland Lieut (temp) J T R.A.M C.
McGillycuddy Lieut (temp.) R R R.A.M C
Roche Lieut. (temp) A. R. R.A.M C
Powell, Lieut (temp) H. A. R A M C
Smith Lieut (temp) A C S R.A.M C
Watson, Lieut (temp) W N R A.M C
Wright Lieut (temp) A. F R.A.M C

Indian Subordinate Medical Department

Awarded the Second Class of the Indian Order of Merit

Ram Singh, 862, 1st Cl. Sub-Asst Surg (attd 1-5th Gurkha Rifles)
Pargan Singh, 1250 2nd Cl Sub-Asst Surg (attd 6th Jat Light Infantry)

Awarded the Indian Distinguished Service Medal

Pheo Ram 772, 1st Cl Sub-Asst. Surg (attd 1-5th Gurkha Rifles)
Kishan Singh 12-5 2nd Cl Sub-Asst Surg (attd 112th Indian Field Amb.)
Mathuraparshad Sarwal 1350 3rd Cl Sub-Asst Surg (attd 57th Wilde's Rifles, Frontier Force)

By an oversight, which we regret, the name of Dr A W J MacFadden, Chief Inspector of Foods, Local Government Board, was omitted from the list published in THE LANCET of Jan 1st of those who were appointed Companions of the Bath in recognition of services rendered in connexion with the war

DEATHS AMONG THE SONS OF MEDICAL MEN

The following son of a medical man must be added to our lists of those who have fallen during the war —

Second Lieutenant O P Gwynne 92nd Punjabis, younger son of the late Dr C N Gwynne, of Sheffield

THE MEDICAL EXAMINATION OF RECRUITS

The duty of a medical recruiting officer is at no time an easy one He is aware that it is hoped that he will pass a large number of candidates but that the admission of bad lives will be rightly resented, and he is at the same time offered a fee which does not conform well with the time occupied and the responsibility incurred Recently the position was made still harder by the sheer bulk of the material he had to cope with and, if we have been correctly informed, by other difficulties of an entirely avoidable nature As the work of recruiting medical officers seems to be by no means at an end, but, on the contrary, to be entering on a new and more responsible phase, it may serve a useful purpose to state some of the difficulties to which reference is made Medical officers have been required not merely to examine as many as 250 men at a single depôt, but to do a daily round of five or more such centres Instead of finding every facility provided for his work, the medical recruiting officer has sometimes had to suffer from insufficient accommodation, a frequent change of orderlies, pressure from the combatant officers to enlist unfit men and overlook weaknesses, and collusion to deceive between recruits and recruiters The blame must, of course, not entirely be laid on the recruiters, inasmuch as the men examined were volunteers anxious to join and naturally prone to use every means at their disposal to conceal any ailment likely to cause their rejection But less creditable forms of deception have been reported, especially in regard to the sight test, by recruiters and orderlies, with the aim of securing the grant Such methods can only bring discredit on the recruiter, and a risk of early breakdown to the recruit

It is therefore no small satisfaction to receive an official intimation that all these drawbacks have now been remedied for the future in a scheme elaborated by the Director General of the Army Medical Service, which came into force on Jan 18th Examining stations are to be set up, of which 98 are actually in readiness, each under the control of a medical board with an officer, active or retired, of the Royal Army Medical Corps presiding The number of recruits examined per day at any one station is not to exceed 200, and this number will be well within the compass of the medical examiners Each recruit is to be carefully examined in a quiet room and then classified according to his capacity These data will be handed on to the military authorities and dealt with by them according to military requirements No man will be sent to any work for which the medical board has considered him unfit In doubtful cases the decision may be referred to expert opinion Eyesight tests have always been framed with special regard to military efficiency and are not primarily medical standards The work of translating the military requirement as regards eyesight into actual tests was entrusted to the Ophthalmological Society by the Director General, and these tests are the basis of acceptance or rejection in the case of each recruit examined As far as possible an ophthalmic surgeon will be a member of each medical board

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THE PROPOSAL FOR A COLLEGE OF NURSING

At a special conference of the Society for the State Registration of Nurses called for the purpose of considering the proposal for a College of Nursing put forward by the Joint War Committee of the British Red Cross Society and the Order of St Joh of Jerusalem (see THE LANCET, Jan 8th, 191 p 109) a resolution was unanimously pass stating that the proposed scheme was "dangerou to the best interests of the profession of nursing and agreeing to oppose the proposal and to pus forward the demand for legal registration

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CENTRAL MEDICAL WAR COMMITTEE THE ENROLMENT LETTER

The following has been addressed by the Centr Medical War Committee to every practitioner o military age in England and Wales who has no accepted a commission in the Royal Army Medica Corps —

DEAR SIR —You are no doubt aware through th columns of the medical journals and the agency of yo Local Medical War Committee of the plan of the Centr Medical War Committee for enrolling all medical men o military age for service if and when required in the R A M C or the Medical Service of the Royal Navy

The end of the war is not yet in sight The country i greatly increasing its army, and Lord Derby's scheme ha provided an immense number of potential soldiers who wil be drawn upon as required It is clear, therefore, that man more medical officers will be wanted, and members of o profession will, we are convinced, be at least as alive to th military necessities of the country as other members of th community

Medical practitioners were not expected to attest unde Lord Derby's scheme because it was recognised that the could better be dealt with by a Committee representative of their profession

The Central Medical War Committee, originated by th British Medical Association, but including members wh do not belong to the Association is working with th full consent and authority of the Director General of the Army Medical Service The Committee is recognised by him as the medium for providing medical men needed by the Wa Office for the Army, and at the same time protecting th needs of the civil population

The Central Medical War Committee now confidently appeals to you as a medical man of military age to assist our national military organisation by enrolling yourself for service in the R A M C when required and to justify the confidence placed in the profession, which has been asked to organise itself for the service of the country To enable you to do this we enclose Forms W 7 and W 8 which should be completed and returned to this office with as little delay as possible.

The Committee hopes to enrol every medical man of military age (in the case of our profession up to the age of 45) so that as further calls are made by the Director General of the Army Medical Service these calls may be promptly met with due regard to the necessity of the services, to the needs of the civilian population, and to the circumstances of individual medical practitioners Unless all are enrolled it will be very difficult for the Central Medical War Committee to make its calls throughout England and Wales in a manner which will minimise the inconvenience suffered both by the community and by individual medical practitioners

It must be remembered that the enrolment of all medical men of military age does not mean that all enrolled will be called upon to take a commission The number called upon will depend entirely on the demands of the services The calls will be made in consultation with the Local Committees and due regard will be given to (1) the system of classification adopted as a guide by the Central Medical War Committee (see Appendix A), (2) the circumstances of the individual practitioners, and (3) the opinion of the Local Medical War Committees as to which practitioners can be most easily spared The Local Committee will advise and coöperate with a view to safeguarding the work and interests of th absent practitioners so far as it is able

The Central Medical War Committee hopes that all practitioners to whom this is addressed will believe that some months experience in dealing with this question has made the Committee thoroughly conversant and deeply sympathetic with the difficulties which most practitioners experience in leaving their work But some thousands of medical men have now made the sacrifice and what they have done others may fairly be asked to do. The Committee believes also that those who are not able, or are not required, to undertake military service will so far as opportunity offers and their ability permits contribute to the military strength of the country by placing their services at the disposal of the Local Medical War Committees for the purpose of arrangements that may be necessary for the conservation of the practices of men of military age to enable them more easily to enrol.

On enrolment you will receive a numbered certificate and this will be taken as equivalent—so far as the medical profession is concerned—to attestation under Lord Derby's scheme. If you have been attested under that scheme you should at once enrol with this Committee. Your attention is drawn to the official communiqué issued by the Army Council on Jan. 13th, 1916 (see Appendix B).

It is to be specially noted that one great privilege is given to the medical profession that does not apply to any other section of the community, namely, that a medical man can enter the R.A.M.C. on a contract for one year's service, whereas everyone else must join the services for the duration of the war. It cannot be assumed, however, that the same privilege will be accorded to those practitioners who fail to enrol with our Committee.

It has been urged frequently that the Army does not require so many medical officers as are now being requisitioned. On this point we would impress upon you that at present no one is in a position to say how many medical officers may be required; that we are in close communication with the War Office; that the question of economy of personnel is continually under discussion and rearrangements are continually being made to obtain the most economical service. We are convinced that the War Office, the Local Government Board, and the National Health Insurance Commissioners, as well as this Committee, are fully alive to the needs of the civilian population and are doing their utmost to adjust the requirements of the military and civilian medical services to the existing conditions.

We are, yours faithfully,

N. BISHOP HARMAN, } *Secretaries.*
ALFRED COX,

[ENCLOSURES.]

W 7.

PARTICULARS OF CIVIL SURGEONS DESIROUS OF SERVICE WITH THE ROYAL ARMY MEDICAL CORPS.

Surname ____
Christian name in full ____
Date of birth ____
Qualifications ____
Date of Registration as a Medical Practitioner ____
If willing to serve at home and abroad ____
Date when free to join for duty ____
Whether married ____
Whether of pure European descent ____
Whether a British subject or a naturalised British subject ____
Permanent address ____
[illegible] address for correspondence ____
Whether now serving or [illegible] ____
In any other Government Department ____
(If [illegible] Indian or Colonial) If so give particulars ____
Whether [illegible] of any other [illegible] Corps ____
[illegible] since qualifying as a Medical Practitioner ____
[illegible] ____
Particulars of [illegible] Army Service if any [illegible] Officers Training Corps and Territorial Force ____
Names and addresses of two persons who can be referred to as to [illegible] character ____
[illegible] ____
[illegible] ____
Date ____ (Signature) ____

W 8.

CENTRAL MEDICAL WAR COMMITTEE.

[illegible] Lord Derby's [illegible] the Medical [illegible] Military Service.

[illegible]

I ____ [illegible] here [illegible] to the War Office my [illegible] Temporary Commission in the R.A.M.C. [illegible] Central Medical War Committee [illegible] the Military [illegible]

Name ____
Address ____
Date ____

As Appendix A to this letter there is added the system of classification under which it is proposed that medical men should be called up for service (*vide* THE LANCET, Dec. 11th, 1915, p. 1321), and as Appendix B the communiqué issued by the Army Council on Jan. 13th, 1916, explaining the position of the Central Medical War Committee with regard to enrolment (*vide* THE LANCET, Jan. 15th, 1916, p. 163).

We have received from a well-informed correspondent a criticism of a statement made in THE LANCET of Dec. 11th that the Local Government Board were in general agreement with the memorandum brought forward by the Central Medical War Committee. The statement went beyond the facts, as it would seem to imply that the Local Government Board had expressed approval of the system of grouping under which medical practitioners were to be approached by the Central Medical War Committee with a view to accepting medical commissions in the army. The purport of the memorandum was published in the same issue of THE LANCET, but the discussion at the Local Government Board centred round the grouping. The classification under which certain classes of medical practitioners were urged to join the army in preference to others was considerably criticised at the meeting, a fact which was clearly stated in the columns of THE LANCET. The classification was later modified.

SCOTTISH MEDICAL SERVICE EMERGENCY COMMITTEE.

A meeting of the General Committee was held in the Royal College of Physicians of Edinburgh on Jan. 15th, Dr. Norman Walker (Convener) being in the chair. There were present Dr. A. H. F. Barbour, President of the Royal College of Physicians; Mr. James Hodsdon, President of the Royal College of Surgeons; Dr. Ebenezer Duncan, President of the Royal Faculty of Physicians and Surgeons of Glasgow; Professor J. A. Kynoch, Dean of the Faculty of Medicine, University of St. Andrews; Professor T. H. Bryce, Dean of the Faculty of Medicine of the University of Glasgow; Professor Harvey Littlejohn, Dean of the Faculty of Medicine, Edinburgh University; Dr. John C. McVail, Deputy Chairman, National Health Insurance Commission, Scotland; Professor R. Muir, University of Glasgow; Professor T. K. Monro, University of Glasgow; Dr. J. R. Hamilton, Chairman, Scottish Committee, British Medical Association; Dr. John Adams, Vice-Chairman, Scottish Committee, British Medical Association; Dr. John Playfair, President of the Edinburgh Medical Guild; Dr. John Stevens, secretary, Edinburgh Branch, British Medical Association; Dr. J. R. Currie, medical officer, National Health Insurance Commission, Scotland; Mr. T. H. Graham, secretary. Sir Donald MacAlister, K.C.B., President of the General Medical Council, and Dr. Alfred Cox, medical secretary, British Medical Association, were also present.

The Convener, in reporting upon the progress of the Medical Recruiting Scheme for 1916, stated that about 25 per cent. of the registered practitioners in Scotland had not yet made a return as requested in the Committee's memorandum which was circulated in December last, and he pointed out that in order to be fully prepared to meet any further demands which the War Office may make upon the profession it was essential that the Committee should possess a complete conspectus of the whole position of medical service in Scotland This was the object of the registration scheme, and it was most desirable that those practitioners who had not yet answered the inquiry should do so without further delay

The Presidents of the Royal College of Physicians, the Royal College of Surgeons, and the Royal Faculty of Physicians and Surgeons of Glasgow, and the Deans of the Faculties of Medicine in the Universities of St Andrews, Glasgow, Aberdeen, and Edinburgh, were appointed, with the Convener, to deal with all applications for letters of excuse, and to report to the Committee

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THE WORK OF AN AIDE MAJOR

A correspondent who has been privileged to help in ambulance work in the forest of Argonne, the scene of so much fierce and prolonged fighting, sends us the accompanying photograph illustrating the routine morning's work of an *aide major* (assistant surgeon) of the French Army Medical Service, conducted, weather permitting, in the open air His duty is to interview and examine ailing combatants and to apply such treatment as his limited facilities allow Dry cupping has always been a popular and highly appreciated therapeutical measure among French practitioners, and the *infirmier*, or male nurse, is usually an expert "ventousier" (*ventouse* is the French for cupping glass, whence *ventousier*) It is the panacea for every "tendency to congestion," every pain or ache, and, in general, as a first aid treatment The cupping glass and direct auscultation (for the stethoscope is practically unknown in its country of origin) are the means of restoring peace of mind to many a troubled bosom in the trenches

Open air work of an *aide major* in the Argonne

BRIGHTON TERRITORIAL HOSPITAL.—Mr L. A Parry, M D, F R C S, sends the following notes of cases under treatment at the Brighton Territorial Hospital presenting points of special interest in connexion with gunshot and other wounds The notes have been grouped under regional headings

I *Head and neck —Fracture of the base of the skull with paralysis of cranial nerves* —In this patient there was a small punctured bullet wound just below the middle of the left orbit, with complete paralysis of the seventh and eighth nerves on the same side Subconjunctival hæmorrhage had taken place and some bleeding from the left ear An X ray picture was negative Either the bullet had not entered, the wound being merely a glancing one, or the radiogram failed to show it A fracture of the base of the skull was undoubtedly present, the petrous portion of the temporal bone being injured, thus accounting for the nerve paralysis ——*A case illustrating the advantage of the immediate excision of bullet wounds* —A patient was struck by shrapnel which tore open his scalp The wound was as soon as possible completely excised and sewn up It healed by first intention with a simple linear scar, with the saving of much time and the avoidance of the risk of septic complications ——*A case of gunshot wound of the mouth* —The patient was struck by a bullet at one angle of the mouth which was cut open The bullet passed right through the mouth, cutting the tongue, knocking out nearly all the teeth and portions of the alveoli, and passing out at the opposite angle of the mouth There was left a septic wound of the lips and cheeks which is healing with simple mouth washes A good deal of deformity will be left requiring a plastic operation later ——*A case of wound of the throat by shrapnel* —This man was struck by a bullet which made a deep gutter wound round the front of the throat from about the angle of one jaw to the same point on the other jaw He had a little hoarseness immediately after the injury but the larynx was not appreciably affected. The wound presented the same appearance as obtains in a case of cut throat

II *Trunk —Some examples of wounds of the chest* —A young soldier was shot through the lung by a rifle bullet, which entered behind the right shoulder and left at the level of the angle of the left scapula Severe hæmoptysis occurred, lasting two weeks There were also cough and dyspnœa A needle was inserted into the right chest and from it came what the patient thinks was clear fluid. A diagnosis of pneumothorax was made In one month from the receipt of the wound the patient was quite well, all the untoward symptoms having disappeared In another case the man was shot through the lower part of the chest by a bullet from a machine gun, which entered at the level of the eighth rib in the anterior axillary line and left the body on the opposite side at the same level but rather farther back. In its course the bullet must have traversed the right pleural cavity the liver, the stomach probably the spleen, and the left pleural cavity About half an hour after receiving the injury the patient drank some water and almost at once vomited a quantity of blood There was a doubt whether he had some slight spitting of blood Signs of a pneumothorax were present One month after being shot the patient was quite well all abnormal physical signs having disappeared

III *Extremities —Some cases of bullets lodged in bone* —A man had a whole shrapnel ball embedded in the head of the tibia A sinus led down to the bone and as this showed no sign of healing and the patient had a good deal of pain an exploratory operation was undertaken and the bullet removed. In the second case a bullet lodged in the lower end of the femur, and was easily removed through the entry wound. If no symptoms are caused by a bullet fixed in bone nothing need be done but if a sinus persists, or there is pain and disability, an operation should be carried out for its removal.——*Comminuted fractures*—The patient was shot in the wrist by a bullet, causing a compound fracture of radius and ulna. The wound was explored and a large number of small pieces of bone and cloth taken away After this it healed well, with satisfactory union of the bones in good position Unless comminuted fractures of the bones due to bullet wounds are early and thoroughly explored and all foreign bodies such as pieces of cloth, removed together with all loose fragments of bone, sinuses may persist for many years, causing much trouble and giving rise to many long and difficult operations for the removal of sequestra. Expectant treatment in this class of case is bad surgery Every comminuted fracture due to a bullet wound should be thoroughly explored at as early a date as possible The following is another example of this frequent class of case *Severe compound fracture of the tibia and fibula*—This man was wounded in the leg at about 100 yards range Both of the bones of the leg were much comminuted. The essentials of treatment were carried out—namely, exploration and removal of all loose pieces, free drainage, and immobilisation of the bones Too much attention has not been paid to the position of the fragments as this is, at this stage, a matter of secondary importance ——*Explosive wounds*—The first case is that of a man shot by a bullet which entered by a small circular aperture at the centre of the palm and came out at the back of the hand, making a large triangular explosive wound about 2 inches long on each side The man naturally attributed his injury to an explosive bullet The true explanation of this, as of nearly all so-called explosive wounds, is that enunciated in Teevan's law, which states that the entry wound is caused by the bullet alone the exit wound by the bullet, together with pieces of broken bone In the second case a bullet had passed right through the thigh, the entry wound at the back being a mere puncture, the exit wound in the front showing all the characteristics of an explosive wound, being large and gaping, with shreds of lacerated muscle. An X ray examination showed no fracture of the bone, though from the appearance of the wound a fracture would have certainly been expected. This case is an interesting example of a rather rare event—namely an explosive wound without any fracture of bone. The bullet must have turned in its course through the thigh, being probably deflected by the bone without causing any bony injury, and was then forced sideways through the skin thus giving the explosive appearance.——*Traumatic aneurysm of the common femoral artery*—A rifle bullet passed right through this patient's leg, the wound of entry being in the lower part of the left buttock, behind, that of the exit in the front of the thigh just internal to the common femoral artery and about 2 inches below Poupart's ligament both wounds being quite small punctures and having healed without sepsis He was admitted four days after being struck when there was an oval swelling about 1¾ in by 1¼ in over the common femoral artery, which pulsated and over which a thrill could be felt There was no interference with the peripheral circulation the pulse at the ankle being similar to that on the other side and having a rate of between 80 and 90 per minute A definite murmur was transmitted upwards and downwards. The sac was over the femoral artery and no secondary results of pressure or deficient blood supply were apparent An ice-bag was applied and rest in bed ordered The thrill persisted only for about 10 days One month later the sac was slightly diminished in size the thrill had disappeared and the patient was suffering no discomfort ——*[illegible] severe injury to the forearm*—This patient presented a large irregular wound on the front of the lower part of the forearm with a similar wound at the back daylight showing between the two Pieces of bone and fragments of the soft parts had been blown right out The tendons of the various muscles of the forearm were exposed but the main vessels and nerves were intact as shown by the fact that the circulation below was satisfactory and sensation normal An X ray photograph showed comminution of [illegible] the gap between the end An attempt is being made to save the arm although it is extremely doubtful whether this will be possible Even if saved the limb will probably be of very little use ——*Compound comminuted fracture of the patella*—This man was struck by a fragment of trench bomb which caused a comminuted fracture of the knee-cap There was a non purulent effusion into the joint cavity Wounds from this variety of missile are now common, but they present no special features They cause practically the same injuries as are inflicted by any piece of shell.——*Large superficial flesh wound*—This man had in the middle of the back of his thigh a large oval wound, irregular and jagged. He said he had been struck by an explosive bullet As this was the only wound, probably a piece of shell was the actual cause of his injury Saline solution was used as a dressing, and this proved, as in a large number of other cases in which it was employed, very satisfactory, the wound granulating up in a perfectly healthy manner ——*Phlebitis from a blow by a piece of spent shell*—The patient was struck in the middle of the calf by a large piece of a nearly spent shell He had not previously had any trouble with his veins A simple inflammation of the veins was the result, which took many weeks to subside

VACANCIES FOR MEDICAL OFFICERS—There remain several vacancies in the commissioned ranks of the 2nd London Sanitary Company for foreign service Candidates holding a public health diploma will be given a preference, and on being accepted will proceed on service after a short period for training Applications should be addressed to Captain Caley, officer commanding 2nd London Sanitary Company, Duke of York's Headquarters, Chelsea, S W

CONVALESCENT HOMES—General Seely, formerly Secretary of State for War, has placed Brooke Hill, Isle of Wight at the disposal of the Royal Flying Corps for use as an officers' convalescent home—In order to provide a home for soldiers and sailors who are more or less permanently incapacitated for ordinary work Mr William Cresswell Gray, of West Hartlepool, has offered to make a gift of Membland Hall, Revelstoke, South Devon, to the nation.—The buildings at Prior Park, Bath, are being fitted up as a convalescent home for men of the Canadian Expeditionary Force—The annexe to the Star and Garter Hospital at Richmond has been completed, and on Jan 15th a number of convalescent soldiers and sailors were brought from London in motor ambulances The hotel itself is in course of reconstruction as a hospital for wounded men

THE DILKE MEMORIAL HOSPITAL—The sub-committee of the Dilke Memorial Hospital, which is to be erected near the Speech House, Forest of Dean has just issued a report The new institution is to provide accommodation for eight beds, exclusive of the resident staff. £3000 have been promised towards the necessary expenditure by an anonymous donor provided a similar amount is raised by the public. When this sum is obtained the Crown have offered £500 and £25 a year towards the maintenance, the cost of which is estimated at about £400 per annum

WOMEN'S MATERNITY UNIT FOR RUSSIA—A maternity unit organised by the National Union of Women's Suffrage Societies has been accepted by the Russian authorities and is expected to leave shortly for Petrograd where it will be known as the British Women's Hospital. Sixteen beds are to be provided The staff will consist of two women medical officers, one with clinical and one with sanitary duties a general organiser a matron and six nurses The medical officer is Miss M E Mar M B Ch B lately returned from Serbia Russia is doing what it can to provide maternity help for the constantly increasing stream of refugees but Russian medical women as well as men have been mobilised and are not available for civilian practice The cost of the unit for six months is estimated at £5000 Generous donations in money and clothes have been already received from the Union of Trained Nurses and medical instruments and supplies of any kind will be welcome. Milk foods are specially wanted The honorary treasurer's address is 14 Great Smith Street S W

OBITUARY OF THE WAR

ERNEST OCTAVIUS WIGHT, L R C P EDIN, M R C S ENG, D P H,

COLONEL AND ASSISTANT DIRECTOR, ARMY MEDICAL SERVICE

Colonel E O Wight who was killed in action in Flanders on Dec 19th last at the age of 57 years, was the youngest son of the late Dr Robert Wight F R S, of Shinfield near Reading He was educated at Wellington College, and then entered at St Mary's Hospital, where he was a prizeman and, as a contemporary writes, "well known for his determination to gain his object, both at his work and in sports " After obtaining his double qualification in 1881, he entered the Army Medical Service, reaching the rank of lieutenant-colonel in 1902, and retiring in 1907 On the formation of the Territorial Force he accepted the post of Deputy Assistant Director of Medical Services, Home Counties Division, in which capacity he was employed when war broke out In April last he was offered the post of Assistant Director of Medical Services, 49th Division, which had been ordered abroad, and he was serving in this capacity at the time of his death He was killed by a shell whilst assisting to extricate some of his motor ambulances from a dangerous position He saw active service in the Lushai Expedition of 1892 and held the Royal Humane Society's bronze medal and two vellum testimonials for saving lives from drowning on three different occasions One of his senior officers, in writing of him says "He was a man who had become proverbial as one who had no fear, he was an object of devotion and reverence to his own officers and men, ever setting them a fine example of duty All mourn him, as they have lost not only a true friend, but also a wise director and an original and clever organiser of things for their good, one whose whole heart and soul was in his work " Of his personal attributes a medical friend says "His kindly disposition and cheery laugh made him a great favourite with every one." Colonel Wight married, in 18[illegible] Janet Leslie, youngest daughter of the late Peter Denny LL D, of Helenslee, Dumbarton He leaves a widow and three children two daughters and a son, who is a cadet at Dartmouth College

WILLIAM FRANK THOMPSON, B A. CANTAB, M R C S L R C P LOND,

LIEUTENANT, ROYAL ARMY MEDICAL CORPS

Lieutenant W F Thompson, who died in France as the result of wounds received on Dec 28th, the son of Mr W W Thompson, of Brondesbury, was educated at the Leys School, Cambridge, where he was one of a small group of boys whose strength of character and skill at games made them the Olympians of their time Of that group he is the third to lay down his life for his country in the war From the Leys School he went to King's College, Cambridge, where he graduated in 1909 and represented the University at lacrosse From Cambridge he proceeded to St Bartholomew's Hospital, where he qualified in 1912, and where during the earlier part of the war he held one of those condensed and exceedingly hard worked house appointments which the war made necessary Joining the Royal Army Medical Corps as honorary lieutenant in July 1915, and gazetted to the rank of full lieutenant on Oct 9th, he was posted to the 99th Field Ambulance, and after a period of training went with it to France, where he was mortally wounded by the bursting of a shell near his ambulance and died in hospital on New Year's Day, 1916, at the age of 28 Tall, strong, friendly and efficient, he was marked to succeed in any branch of work he took up In entering his name on the Roll of Honour we commemorate a loss which will be very deeply felt by his friends inside and outside the medical profession

Medical News

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND —At the Second Professional Examination in Anatomy and Physiology held on Jan. 6th, 7th, 10th, and 11th, 96 candidates presented themselves of whom 67 were approved and 29 were rejected The following are the names and medical schools of the successful candidates —

Ralph William Codrington Ball Middlesex Hospital George Arthur Emmanuel Barnes, University College, Anthony Blackstock King's College Eric John Swithin Bonnett St Thomas's Hospital Martin Vincent Boucaud St Bartholomew's Hospital Charles Reginald Cade Guy's Hospital; John Douglas Magor Cardell, St Thomas's Hospital Thomas Carlyle St Bartholomew's Hospital Nai Cheua Middlesex Hospital Wilfred Bayley Christopherson St. Bartholomew's Hospital William Arnold Clements Birmingham University Charles Eric Cobb St Thomas's Hospital Alfred Innes Cox Middlesex Hospital Hedley Chave Cox St Bartholomew's Hospital Carl Knight Cullen, London Hospital Thomas Davies, B Sc. Lond and Wales University College, Cardiff Charles Joseph Christopher de Silva King's College Francis Bridger Dutton M A. Oxon St Thomas's Hospital Tyrrell George Evans, St. Bartholomew's Hospital Donald Charles Farquharson St Mary's Hospital Schalom Finkelstein Zürich and King's College, Justin Beauclerc Flamer Caldera, L.M S Ceylon Ceylon and St Bartholomew's Hospital Charles Arnold Rodrigo Goonewardene Ceylon and Middlesex Hospital Austin George Hewer Middlesex Hospital Christopher Langton Hower St Bartholomew's Hospital Richard Hilliard London Hospital Marshall Jackson St Bartholomew's Hospital Jeffrey Woodward Jones B Sc Vict University College Cardiff; Salomen Kadinsky Brussels and King's College Allan Wellesley Lewis St Mary's Hospital Simon Sally Liebermann St Thomas's Hospital Arcot Doraiswamy Lokanathan L.M S Madras Madras University Harold Octavius Long Guy's Hospital Albert Victor Lopes St Bartholomew's Hospital Ernest Kenneth Macdonald St Thomas's Hospital Thomas Clyde McKenzie Birmingham University Gordon Millar St Bartholomew's Hospital David Mintzman Paris and King's College William Drew Nicol St. Bartholomew's Hospital Edward Nissim Bombay and University College Arthur Arnold Osman Guy's Hospital William Griffith Owen London Hospital Edmund Jacobus Papenfus St Thomas's Hospital William Alfred Whitehouse Parkes Birmingham University Arthur Llewellyn Spencer Payne Guy's Hospital Eugene Arthur Pearson London Hospital Rowland John Perkins St Bartholomew's Hospital John Peter and Ernest Frank Rabey Middlesex Hospital Edward Douglas Thomas Roberts St Thomas's Hospital John Southmead Rogers King's College Solomon Nahum Senitzky B.A. London Hospital Adolphe Gladstone Milliott Severn Guy's Hospital Bryan Buckley Sharp St Bartholomew's Hospital Bertram Leslie Slater London Hospital Stanley Roy Tattersall and Cyril James Thomas St Thomas's Hospital Norman Beattie Thoms B Sc Wales St Bartholomew's Hospital Ronald Agars Walker St Thomas's Hospital Austin Darley Wall St. Bartholomew's Hospital Arthur Elston Ward St Thomas's Hospital Peter Irbin Williams, B Sc University College Cardiff Samuel Anthony Withers and Sidney Wolff Guy's Hospital Sydney Carver Woodhouse London Hospital Vyvian Deane Wyborn King's College and Claude Young, Middlesex Hospital

At the quarterly examination in Practical Pharmacy held on Jan 13th the following candidates were approved —

Robert Aspinall Stivala, Guy's Hospital Hugh Woodward Burnet King's College Hospital Edward George Paul Bousfield St Bartholomew's Hospital; Clifford Viney Braimbridge B A Cantab Cambridge University and St Bartholomew's Hospital [illegible] Clinton Collins, London Hospital William Hood Dye L.D.S Eng Middlesex Hospital Charles Arthur Lovatt Evans D Sc University College Hospital Arthur Alfred Fitch Liverpool University Frederick John Harvey Birmingham University Basil Hask[illegible]

Otago University and St. Bartholomew's Hospital John Frederic Haynes Oxford University and St. Bartholomew's Hospital Keith Mason Cambridge University and St Bartholomew's Hospital George Edward Mullins and Vernon Arthur Newton Birmingham University Bishambhar Sahai Calcutta Medical College and Charing Cross Hospital Ram Sinha Punjab University and London Hospital Vincent Russell Smith St Mary's Hospital and Geoffrey Commeline Williams B A. Cantab Cambridge and Bristol Universities

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—A quarterly meeting of the Council was held on Jan 13th, Sir W Watson Cheyne, the President being in the chair In accordance with the recommendation of the Library Committee it was resolved that the library shall be closed at 6 30 instead of at 7 o clock. It was resolved to contribute the sum of 50 guineas to the joint fund of the British Red Cross Society and the Order of St John of Jerusalem Mr H J Waring was re elected a member of the Court of Examiners It was decided to remove from the roll of Members a Member whose name had been previously removed from the Medical Register The President reported the delivery by Sir Anthony Bowlby, on Dec. 20th last, of the Bradshaw lecture on "Wounds in War" The best thanks of the Council were given to Sir Anthony Bowlby for his lecture and he was requested to publish it The President reported that Sir G H Makins had consented to deliver the next Hunterian oration, and accordingly declared him to be appointed Hunterian Orator for 1917 The President reported that he had granted the use of the lecture theatre in December last (1) to the University of London for five lectures on Recent Work on Alimentary Toxæmias, by Dr E Mellanby, acting superintendent of the Brown Animal Sanitary Institution, and (2) to Major T B Layton, R A M C, for three demonstrations to men of the 2/4 London Field Ambulance Licences to practise dentistry were conferred upon the following three candidates —

Bertrand Kemp Jackson Liverpool University and George Evan Henry Holt Phillips and John Morley Stebbings Guy's Hospital

ROYAL METEOROLOGICAL SOCIETY.—The annual general meeting of this society was held on Jan 19th at the Surveyors Institution, Great George-street, Westminster, Major H G Lyons F R S the President, being in the chair The report of the council for 1915 was laid before the Fellows and the Symons memorial gold medal, which is awarded biennially for distinguished work in connexion with meteorological science was presented for transmission to Dr C A Angot Bureau Central Météorologique de France The President delivered an address on the Winter Climate of the Eastern Mediterranean of considerable topical interest

MEMORIAL SERVICE AT ST BARTHOLOMEW'S.—A memorial service was held on Jan 13th in the chapel of St Bartholomew the Less within the precincts of the hospital for the 21 past or present students who have lost their lives during the last year of fighting The service was largely attended by the governors members of the staff and students as well as by the immediate relatives and friends of the deceased

Parliamentary Intelligence

HOUSE OF COMMONS

WEDNESDAY, JAN 12TH

Medical Men and War Service

Mr SHIRLEY BENN asked the Under Secretary for War by whose authority the Central Medical War Committee which was now occupied in recruiting doctors to the Royal Army Medical Corps was chosen by whom were its powers defined and by whose nominations had its members been selected Mr TENNANT wrote in reply The Committee referred to in the question was I am informed appointed and its terms of reference settled by the British Medical Association at its annual Representative Meeting in July [illegible] medical [illegible] War Office [illegible] Army [illegible] his qualifications to the best possible use to deal with all matters affecting the medical profession arising in connexion with the war and to report to the Council (of the British Medical Association)" After a conference at the War Office with the Director General of the Army Medical Service the Committee was informed on August 9th, 1915 (in a letter which has been published), that the Director General hoped to receive from the Committee much help in his work of providing officers for the Royal Army Medical Corps, and was glad to recognise the Committee as a medium for dealing with the great problem which faced the medical profession—namely, how to supply medical officers for the forces and at the same time to protect the needs of the civil population, and the Committee was accordingly authorised to make appeals to the profession with the object of securing those needs A further conference took place at the War Office with the Director General of Recruiting on Nov 5th last on the same subject and to the same effect As a result of these conferences this Committee, which has Local Committees in all parts of the country, has been endeavouring to procure and to coördinate offers from members of the medical profession of service in the Royal Army Medical Corps Applications for such commissions are decided upon by the War Office, after they have been referred to this Committee for consideration in relation to the medical needs of the civil population in the areas concerned in each case, and after consultation with the Insurance Commission and where necessary with the Local Government Board and the Board of Education Analogous arrangements exist in regard to Scotland I should add that the War Office has received and is receiving very valuable assistance from these Committees

Mr SHIRLEY BENN further asked the right honourable gentleman why the medical profession was not starred, since a medical man represented a skilled worker who was not easily replaced, and whose training occasioned considerable outlay and occupied a long period of time—Mr TENNANT (in a written answer) replied Special arrangements have been made with regard to the recruitment of the medical profession, with a view of ensuring all adequate attendance on the troops without unnecessarily dislocating the medical needs of the civil population The question of starring does not arise

Mr SHIRLEY BENN asked the right honourable gentleman whether the Government had sanctioned the recruiting, through the agency of the Central Medical War Committee, of medical men up to the age of 45 the limit of age for the rest of the nation being 41—Mr TENNANT wrote in reply The age limit referred to in the question relates to medical men applying for commissions in the R A.M C, and not to recruits for the combatant services in which the age limit of 41 applies

Recruitment of Medical Students

Mr SHIRLEY BENN asked the Under Secretary for War whether he was aware of the risk of cutting off at its source the supply of medical aid both for the army and for the civil population, which was incurred by recruiting first- and second year medical students and would he see that the practice was discontinued—Mr TENNANT wrote in reply The present policy was undertaken after the most careful consideration, but the statistics bearing upon the matter are being considered

Discharge for Physical Incapacity from the Army

Mr RICHARD LAMBERT asked the Under Secretary for War whether all men who were in future passed into the army as medically fit would be entitled to pensions if discharged for physical incapacity of any kind.—Mr TENNANT replied No, Sir, I am not prepared in this matter to go further than I went in the answer which I gave on Nov 10th to the honourable Member for East Edinburgh

Mr HOGGE Has the right honourable gentleman sufficiently realised the importance of this point? Seeing that these men are accepted by the medical authorities as medically fit will the War Office claim, in the event of physical breakdown that they contracted the disease before they were admitted to the army?—Mr TENNANT I think that I gave my honourable friend a full reply on this matter the other day It is not possible for the military department to take responsibility in the case of men who have not contracted illness in the service of the State I am sure that in the interests of the State my honourable friend does not wish us to do anything of the kind

Mr HOGGE How does my right honourable friend meet the point that these men are accepted as medically fit —Mr TENNANT The disease may not have been detected, there may have been some previous illness

Mr [illegible] There is a class of men who have some [illegible] which would not have emerged had it not been for the hardships of military service The disease [illegible] owing to these hardships and [illegible] consideration [illegible] is the general position [illegible] War Office in regard to such cases —Mr TENNANT I [illegible] large a question across the floor of the House But I will say that, speaking generally, that is a medical matter and the medical authorities would state whether they considered that the actual service of the State had been the reason for the breakdown of the man If it had been the man would, of course, receive the pension to which he was entitled

Military Service and the Medically Unfit

Mr **ALDEN** asked the Under Secretary for War whether single men who previous to the Derby scheme had offered themselves for enlistment and were rejected as medically unfit, and who under the circumstances, thought it unnecessary to attest under the Derby scheme, were included in the Military Service Bill, and whether he would see to it that they were not conscripted and compelled to attest —Mr **TENNANT** answered As the Bill stands these men are not excluded, but if their physical disability still renders them unfitted for any form of military service they cannot be held to serve

THURSDAY, JAN 13TH

An Officer of the Australian Medical Corps

Captain **AMERY** asked the Under Secretary for War whether Lieutenant-Colonel J W Barrett, Australian Medical Corps, occupied the imperial appointments of Assistant Director of Medical Services on the staff of the Director of Medical Services, Egypt, and consulting oculist to His Majesty's forces in Egypt, whether he was removed from these offices without inquiry by the Australian Government on a recommendation of the Army Council, which the general officer commanding in Egypt subsequently pointed out was due to a misunderstanding, whether a court of inquiry had been held and what was the finding of that court, and whether, if that report was favourable, the Army Council was prepared to reinstate Lieutenant-Colonel Barrett, or whether he was prepared to make any statement with regard to the value of the work done by Lieutenant-Colonel Barrett —Mr **TENNANT** replied I believe the facts as stated in the first two parts of the question are substantially correct A court of inquiry was held in Egypt in October last year, and in its finding the court exonerated Lieutenant-Colonel Barrett and spoke in the highest terms of his work The High Commissioner of the Commonwealth was informed that there was no objection to Lieutenant-Colonel Barrett being employed in Egypt or elsewhere provided that the Government of the Commonwealth concurred

Soldiers and Surgical Boots

Colonel **WHITE** asked the Under Secretary for War whether he was aware that there was a considerable number of young soldiers who were either unfitted for drafts or had to be discharged from the service owing to their suffering from hammer toes or similar disability, and whether he would consider the advisability, in the less aggravated cases, of having these men fitted with surgical boots which might render them fit for service in any event with a non combatant unit —Mr **TENNANT** wrote in reply In the opinion of my medical advisers the issue of surgical boots to the men mentioned is not likely to render them fit for service, and even if such boots were issued it would be quite impossible to replace them if they were lost or worn out on service

Vaccination Statistics

Mr **PATRICK WHITE** asked the Parliamentary Secretary to the Local Government Board whether he could state the number of children vaccinated in Great Britain in the years 1913, 1914 and 1915, respectively, and the number exempted on account of conscientious objections on the part of their parents, and whether any and if so, how many prosecutions were instituted against parents for non compliance with the law during each of the years mentioned —Mr **HAYES FISHER** answered The number of successful vaccinations for which vaccination officers received certificates at all ages in England and Wales was in 1913, 430,470, and in 1914, 404,616, and the number of declarations of conscientious objection to vaccination in 1913 308,235, and in 1914, 321,313 I cannot give the actual number of children vaccinated nor the figures for 1915, which are not yet available As to the figures for Scotland a question should be addressed to the Secretary for Scotland It appears from the criminal statistics for the year 1913 that 146 persons were proceeded against in that year for offences against the Vaccination Acts The statistics for 1914 and 1915 have not yet been published

TUESDAY, JAN 18TH

The Eyesight of Recruits

Sir **JOHN ROLLESTON** asked the Under Secretary for War whether the War Office was aware that only a medical eye specialist was capable of deciding whether a would be recruit with defective vision was or was not suitable for military service seeing that the sight tests did not discriminate between disease and errors of refraction corrigible by lenses and why the services of medical eye specialists were not made use of by the War Office —Mr **TENNANT** wrote in reply Medical eye specialists are made use of by the War Office in cases where their services are considered to be required

Sir **JOHN ROLLESTON** asked the right honourable gentleman whether it was the case that the War Office did not recognise the certificate of medical eye specialists with respect to the sight of would be recruits —Mr **TENNANT** replied The certificates of medical eye specialists are treated in exactly the same way as certificates from any other medical men They may aid the medical examiner of recruits, but they cannot absolve him from his responsibility in passing or rejecting the recruit In cases of doubtful vision the recruit will be referred for the opinion of an official medical eye specialist

Sir **JOHN ROLLESTON** also asked the right honourable gentleman whether he would consider the advisability of recruits who failed to respond freely to the sight tests being at once sent to a medical eye specialist to be examined as to their visual fitness for enlistment, and to obtain the needed prescription if glasses would bring the sight up to the required standard —Mr **TENNANT** answered Special ophthalmic surgeons are available in all commands to whom cases of doubt or difficulty will be referred

WEDNESDAY, JAN 19TH

Medical Students and Military Service

During the debate in Committee on the Military Service Bill

Mr J H **THOMAS** moved an amendment that a certificate of exemption might be granted to a man "on the ground that he is a medical student who can more advantageously complete his medical training in order to render national service as a medical practitioner

Mr **TENNANT** (Under Secretary for War said that it was proposed to continue the War Office policy that students in the fourth and fifth years should be left to continue their studies That was to say, those who had passed the examination in the third year would be free Those who failed to pass the examination in the third year would not be considered in that category The first- and second year students would be held for service in the forces of the Crown. The Government was carefully examining the whole position with regard to the possible shortage of medical men in the future It had for that purpose enlisted the services of Sir Donald MacAlister, President of the General Medical Council, who had undertaken a careful survey of the whole situation in the medical schools and was going to report to the Government on the subject

Mr **SNOWDEN** expressed regret that the Government was not prepared to take a longer view of the situation

The amendment was withdrawn

Appointments.

Successful applicants for vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward to THE LANCET *Office directed to the Sub Editor not later than 9 o clock on the Thursday morning of each week such information for gratuitous publication*

ANDERSON C B C (Final Year Student) has been appointed to the Surgical Out patient Department at the Edinburgh Royal Infirmary

BLAIR C. E M B Ch B Edin has been appointed Resident Physician at the Edinburgh Royal Infirmary

BURNET J M D Edin has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Edinburgh South District of the county of Edinburgh

CARRUTHERS G J R M B Ch B Edin has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Edinburgh, North District of the county of Edinburgh

FERGUSON H F M B Ch B Edin has been appointed Resident Physician at the Edinburgh Royal Infirmary

GALT H M M B Glasg D P H Captain R A M C (T F) has been appointed Additional Examiner in Medical Jurisprudence and Public Health for Degrees in Science and Medicine at Glasgow University

GIBSON A **KEITH** (Final Year Student) has been appointed Resident Surgeon at the Edinburgh Royal Infirmary

MALCOLM SMITH G L (Final Year Student) has been appointed Clinical Assistant at the Edinburgh Royal Infirmary

PRENTICE ADAM (Final Year Student) has been appointed Resident Surgeon at the Edinburgh Royal Infirmary

PURNELL, CHARLOTTE, M B., B S Durh has been appointed Senior House Surgeon at the Bolton Infirmary

SLOAN SAMUEL, M D Glasg has been appointed Examiner in Midwifery and Diseases of Women to the University of Glasgow

SMELLIE JAMES M (Final Year Student) has been appointed Resident Physician at the Edinburgh Royal Infirmary

WRIGHT H D (Final Year Student) has been appointed Resident Surgeon at the Edinburgh Royal Infirmary

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

ABERGAVENNY MONMOUTH COUNTY ASYLUM —Temporary Assistant Medical Officer Salary £7 7s per week with board apartments and attendance

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon Salary £180 per annum, with board and laundry

BIRMINGHAM GENERAL DISPENSARY —Resident Medical Officer unmarried. Salary £250 per annum with apartments attendance, &c.

BRISTOL ROYAL INFIRMARY —House Physicians and House Surgeons Salary at rate of £120 per annum with board apartments and laundry

BURY INFIRMARY —Senior House Surgeon Salary £250 per annum with board residence and washing

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Second House Surgeon Salary £150 per annum with board apartments and laundry

DERBY DERBYSHIRE ROYAL INFIRMARY —House Physician and Casualty Officer Salary £2[illegible]0 per annum with board residence &c

DEVONPORT ROYAL ALBERT HOSPITAL —House Surgeon unmarried Salary £150 per annum with board and laundry

DUNROSSNESS PARISH —Medical Officer and Vaccinator Worth over £[illegible]

GRAVESEND HOSPITAL.—House Surgeon Liberal salary with board residence and washing

GREENWICH UNION INFIRMARY AND WORKHOUSE.—Assistant Medical Officer unmarried Salary £175 per annum with apartments ration and washing

HELLINGLY EAST SUSSEX COUNTY ASYLUM.—Temporary Assistant Medical Officer Salary 6 guineas a week with board lodging and washing

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST Brompton —House Physician for six months Salary 30 guineas

LEAMINGTON SPA WARNEFORD GENERAL HOSPITAL.—Resident Medical Officer Salary £150 per annum with board residence and laundry

LEEDS PUBLIC DISPENSARY —Female Resident Medical Officer Salary £130 per annum with board residence and laundry

LIVERPOOL, BROWNLOW HILL INSTITUTION —Resident Assistant Medical Officer Salary at rate of £3[illegible]0 per annum with rations &c.

LIVERPOOL ROYAL INFIRMARY —Gynæcological Surgeon

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Senior and Junior House Surgeon

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN Park place Cheetham Hill road —Female House Surgeon Salary £120 per annum with apartments and board

MIDDLESBROUGH NORTH ORMESBY HOSPITAL.—House Surgeon Salary £150 per annum with board residence and laundry

MORPETH 2ND LINE WELSH BORDER MOUNTED BRIGADE.—Medical Officers Pay and allowances as in Regular Army with outfit and camp kit grants

PRESTON LANCS COUNTY ASYLUM Whittingham —Locum Tenens unmarried Salary £7 7s per week with apartments board and washing

QUEEN CHARLOTTE'S LYING IN HOSPITAL, Marylebone-road N W —Female District Resident Medical Officer for four *months* Salary at rate of £60 per annum with board, residence and washing

QUEEN'S HOSPITAL FOR CHILDREN Hackney road Bethnal Green E —House Physician for six months Salary £100 per annum, with board residence and washing

ROYAL FREE HOSPITAL, Gray's Inn road W C —*Curator of Museum*

SCARBOROUGH HOSPITAL AND DISPENSARY —House Surgeon Salary as arranged with residence board &c

SHEFFIELD CITY TUBERCULOSIS DISPENSARY —Female Assistant Medical Officer Salary £2[illegible] per annum

VICTORIA HOSPITAL FOR CHILDREN Tite-street Chelsea, S W —Senior Resident Medical Officer for three months Salary at rate of £250 per annum with board lodging and washing

WIGAN ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY —Female House Surgeon. Salary £150 per annum, with board apartments and washing

WREXHAM INFIRMARY —Resident House Surgeon Salary £125 per annum with board lodging and laundry

THE Chief Inspector of Factories Home Office London S W gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Barrow in Furness in the county of Lancaster and at Staplehurst in the county of Kent

Births, Marriages, and Deaths.

BIRTHS

CANNEY —On Jan [illegible] at S Andrew street Cambridge the wife of [illegible] Campbell Canney M D B C Cantab Captain R A M C (T F) [illegible]

DAY —On Jan [illegible]th at Clarendon road Leeds the wife of S W P Day F R C S Eng Captain R A M C (T F) of a son

MARRIAGES

[illegible]—On Jan [illegible]th at S Jude's Church Bradford [illegible]

[illegible]—On Jan [illegible] at [illegible] Free [illegible] David [illegible] M B C M Edin [illegible]

DEATHS

[illegible]

Notes, Short Comments, and Answers to Correspondents

MEDICAL MEN AND THE ALLEGED SHORTAGE OF PETROL

THE importers and proprietors of a well known motor spirit have issued a circular in which they regret the inconvenience which may be caused to their clients by any temporary difficulties occurring in the delivery of their orders through the necessary attention to Government demands They go on to ask their clients to limit their requirements to a minimum, to use every possible economy in the quantities consumed, and to refrain from the retention of a stock larger than is absolutely necessary The medical profession is entirely in sympathy with any movement for economy in the use of petrol Anyone who has seen the pleasure traffic which still prevails on Sundays on certain of the big roads leading into and out of London must know that there is reckless use of a commodity which should be carefully saved for national purposes But it is equally evident that the petrol used by a medical man serves a direct national purpose and that he should have the preference over the mere pleasure-seeker or the man who uses his car simply to escape the discomforts of railway travelling All this is indeed so obvious that we should have hesitated to mention it, were it not that we have been assured that medical men have received these circulars without any accompanying statement that in case of an actual shortage of petrol a preference would be given to those requiring it for medical purposes

HOME MADE EAU DE COLOGNE

WE have received from the lady superintendent of the Nursing Home, Shear Bank road, Blackburn, a sample of eau-de Cologne made by herself from an old French prescription The prescription is evidently a good one, as the scent prepared brings to mind the classic fragrance of this article The product demonstrates that eau de Cologne can be produced at home which is in no way inferior to the familiar article The profit on sales is to be handed over to a fund in aid of sick or wounded sailors and soldiers

THE UNIVERSITY OF THE PHILIPPINES

BULLETIN No 5 of the University of the Philippines contains a history of the College of Medicine and Surgery which was established by the Government of the Philippine Islands in 1907 This institution is the first department of the future University of the Philippines and was opened for class work and instruction in 1910 Clinical instruction is given in the Philippine General Hospital, which has about 300 beds and also in the Free Dispensary Instruction in dangerous communicable diseases is given at the San Lazaro hospital for infectious diseases with its departments for incurable tuberculosis, small pox diphtheria plague cholera, and other diseases There are also available for teaching purposes the San Juan del Monte Tuberculosis Sanatorium, the institution for the feeding and care of abnormal and undeveloped children and the tuberculosis free dispensaries of the city of Manila In all these institutions there is an abundance of clinical material Students who are not candidates for degrees granted by the College of Medicine and Surgery may be admitted to the various courses Full particulars may be obtained from the Dean, College of Medicine and Surgery, Manila

OPEN AIR TREATMENT IN A SLUM

REPORTING on the condition of the Brady street area the public health committee of the Bethnal Green borough council says We understand that for a time some families were in occupation of rooms the rear walls of which had been removed, such families being thus exposed to the inclemency of the weather

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[illegible]—The following references to gas poisoning have been published in THE LANCET —Asphyxiating Gases in Warfare May 1st 1915 (p [illegible]) Chlorine Poisoning May 15th 1915 (p 1036) On the Use of Atropine Dr Douglas [illegible] Cow May 29th 1915 (p 1147) On the Use of Atropine in Gassed Patients Dr John C [illegible] June 5th 1915 (p 1203) On the Use of Atropine Dr Douglas Cow June 12th 1915 (p [illegible]) On the Use of Oxygen Dr J D Mortimer June 12th 1915 (p 1252) French Observations on the Effects of the [illegible] Gases [illegible] June 19th 1915 (p 1372) Precautions against Asphyxiating Gases (Parliamentary Intelligence) June 19th 1915 (p [illegible]) The Action of Chlorine on the Blood Mr H [illegible] Hale July 10th 1915 (p [illegible]) [illegible] Dr Leonard [illegible] July 24th 1915 (p [illegible]) [illegible] Leonard Hill at Medical Society of London Dec [illegible] 1915 (p [illegible])

M O H has complained to the water engineer that sheep droppings frequently get into the reservoir which supplies the town with drinking water, and has been met with the remark "We don't mind about sheep" The reply indicates that the water authority is too phlegmatic The pollution of water supplies with manurial matters of any kind is most objectionable All responsible water authorities hold that the land nearest to reservoirs should not be manured, and sheep and cattle should be prevented from gaining access

J S, Captain, R A M C—The following can be safely recommended *Physiology*—"Principles of Human Physiology By E H Starling, M D, F R S Second edition 21*s* net (London J and A. Churchill) For revision "Essentials of Physiology" By F A Bainbridge, M D, D Sc, and J A Menzies, M D 1914 Price 10*s* 6*d* net (London Longmans, Green and Co) 'Cole's Physiological Chemistry (Cambridge W Heffer and Sons) *Anatomy*—"Cunningham's Manual of Practical Anatomy' Revised and edited by Arthur Robinson In two parts 1914 (London Henry Frowde and Hodder and Stoughton) Human Embryology and Morphology By Arthur Keith, M D, F R S (London Baillière, Tindall, and Cox), or 'A Manual of Human Embryology, by J Playfair McMurrich (London Baillière, Tindall, and Cox) "Landmarks and Surface Markings of the Human Body" By L B Rawling, B C, F.R C S Price 5*s* net (London H K. Lewis and Co, Limited)

R L—We are in agreement with the points our correspondent desires to make, but it seems to have escaped his attention that 143 schools, colleges, and institutes are already recognised as teaching institutions for the ancillary sciences by the licensing bodies and approved by the General Medical Council A list of these is included in the "Regulations of the Council in regard to the Registration of Medical and Dental Students," published by Constable and Co, London The last issue is dated June, 1915

H W, M B, B S, may safely consult one or more of the following books "Introduction to Study of Hypnotism," Dr H. E Wingfield 5*s* net (Baillière, Tindall, and Cox, London) 'Hypnotism and Treatment by Suggestion," Dr J Milne Bramwell 5*s* net (Cassell and Co, London) Hypnotism and Suggestion, Dr Lloyd Tuckey 10*s* 6*d* net (Baillière, Tindall, and Cox, London)

A V F—Some of the suggestions have already been put into practice In an account of the work of field ambulances published in the *British Medical Journal* some weeks ago, bathing establishments behind the lines were described at which washing of clothes and disinfection were carried out on a large scale, dealing with an average of nearly 1000 men a day for many successive weeks

A F H—Before the war we understand that the exact opposite prevailed, and advancement was more rapid and certain in our correspondent's service, where a lieutenant colonelcy could be counted on after 20 years instead of an indefinite wait for a vacancy

R G—Certainly not The procedure is perfectly well known to every practitioner and it is necessary to take the opinion of the medical adviser to whom the patient is already well known

COMMUNICATIONS not noticed in our present issue will receive attention in our next

METEOROLOGICAL READINGS

(Taken daily at 8.30 a m by Steward's Instruments)

THE LANCET Office Jan 19th 1916

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks
Jan 13	29 894	N W		67	47	44	41	45	Cloudy
14	30·264	N		57	47	36	35	36	Fine
15	30 072	N		58	50	36	44	47	Cloudy
16	30 130	W		52	46	40	39	42	Overcast
17	29 944	S W	...	52	52	40	43	45	Raining
18	29·854	S W	0·05	60	53	45	51	51	Cloudy
19	30·0[illegible]0	S W	0·01	56	51	45	46	47	Cloudy

The following magazines, journals &c. have been received —Journal of Tropical Medicine and Hygiene American Journal of Roentgenology Nordiskt Medicinskt Arkiv Canadian Journal of Medicine and Surgery Cleveland Medical Journal Birmingham Medical Review, Canadian Medical Association Journal Homœopathic Recorder Guy's Hospital Gazette Therapeutic Gazette Edinburgh Medical Journal Public Health Revue de Chirurgie Revue de Medecine Medical Review Cleveland Medical Journal Annals of Tropical Medicine and Parasitology Quarterly Journal of Experimental Physiology Journal of State Medicine, Medical Officer Hospital Gazette Medical Journal of South Africa, Symons's Meteorological Magazine, Journal of Hygiene British Dental Journal, Journal of Nervous and Mental Disease Modern Hospital Journal of the Royal Navy Medical Society

Medical Diary for the ensuing Week.

SOCIETIES

ROYAL SOCIETY Burlington House London, W

THURSDAY —Papers:—Lord Rayleigh O M: The Theory of the Helmholtz Resonator —Prof J Joly: A Collision Predic —Dr C Chree: Discussion of Kew Magnetic Data, especially the Diurnal Irregularities of Horizontal Force and Vertical Force from Ordinary Days of the Eleven Years 1890 to 1900.—Mr G W Walker: A Portable Variometer for Magnetic Surveying —Prof J C McLennan On the Single Line Spectrum of Magnesium and Other Metals and their Ionising Potentials —Mr F Tinker: The Microscopic Structure of Semipermeable Membranes and the Part played by Surface Forces in Osmosis (communicated by Sir O Lodge) —Mr E Newbery and Mr J N Pring The Reduction of Metallic Oxides with Hydrogen at High Pressures (communicated by Sir E. Rutherford) —Mr H Levy Discontinuous Fluid Motion Past a Curved Boundary (communicated by Prof A. E H Love)

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W

MEETINGS OF SECTIONS

Monday Jan. 24th.

ODONTOLOGY (*Hon Secretaries—F R. Smyth F N Doubleday J Howard Mummery*): at 8 P M

Paper

Mr W Courtney Lyne (communicated by Mr Montagu F Hopson) *The Significance of the Radiographs of the Piltdown Teeth* Professor Arthur Keith Professor A. S Underwood and Dr Smith Woodward will take part in the discussion.

Casual Communication

Mr Rushton: Total Absence from Deciduous and Permanent Dentition

Tuesday, Jan. 25th

PSYCHIATRY (Hon. Secretaries—Bernard Hart, G F Barham): at 8.30 P.M

War Discussion

A Special Discussion on the "Functional Neuroses caused by Shell Shock without Visible Signs of Injury" will be opened by Dr Mott F R.S and will be adjourned to the Meeting of Neurology on Thursday Jan 27th (see notice below)

N B —Members of other Sections interested in the subject are specially invited to be present

Thursday, Jan. 27th.

NEUROLOGY (Hon Secretaries—H Campbell Thomson *C M Hinds Howell*): at 8 30 P.M

The Special Discussion on the Functional Neuroses caused by Shell Shock without Visible Signs of Injury" (see above Section of Psychiatry) will be continued

The chair will be taken by the President (Dr James Taylor) and Dr Batten Dr Farquhar Buzzard Dr J S Collier Dr E G Fearnsides Dr Wilfred Harris and Dr Campbell Thomson will speak

Members wishing to take part in the discussion should communicate at once with Dr Hinds Howell 145 Harley street W

Friday Jan 28th.

STUDY OF DISEASE IN CHILDREN (Hon Secretaries—J D Rolleston A. S Blundell Bankart, Sidney Gifford): at 4.30 P M

Cases

Mr *Sydney Stephenson: Dyspituitarism in a Girl of 15 Years*

Dr J D Rolleston: Transient Hemiplegia in *Diphtheria* with *Lesions of the Finger-nails*

Dr J L. Bunch: *Papillomatous Growth in a Scar*

Dr Eric Pritchard (?) Cerebral Tumour in a Child

Dr C O Hawthorne: *Double Optic Neuritis*

Specimens

Dr E C Williams: *Heart showing Infiltration by Large Round-celled Sarcoma.*

Miss M B Stogden and Miss J H Younger (Introduced by Dr Eric Pritchard): *Congenital Double Hydro-ureter*

Short Paper

Dr J Porter Parkinson: Nephritis without Albuminuria

MEDICO LEGAL SOCIETY 11 Chandos-street Cavendish-square W

TUESDAY —5 P M Exhibits. Short Communication —Sir John Collie: Short Account of a *Criminal Case* Was the Plea of *'Qualified Responsibility" Justifiable?*

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WEDNESDAY —4 P M Clinical Afternoon Cases of Clinical Interest will be shown by, or for members of the staff of Guy's Hospital.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

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WEDNESDAY —10 A.M, Dr Saunders: *Diseases of Children* Dr Banks Davis: Operations *of the Throat,* Nose and Ear 2 P.M., Medical and Surgical Clinics X Rays. Mr Pardoe: Operations. Dr Simson: Diseases of Women.

THURSDAY —2 P.M., Medical and Surgical Clinics X Rays Mr Gray: *Operations* Mr B Harman: Diseases of the Eye

FRIDAY —10 A.M., Dr Simson Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr Addison: Operations. Dr Banks Davis: Diseases of the Throat, Nose, and Ear Dr Pernet: Diseases of the Skin.

SATURDAY —10 A.M. Dr Saunders: Diseases of Children. Dr Banks Davis: Operations of the Throat, Nose, and Ear Mr B Harman: Eye Operations 2 P.M. Medical and Surgical Clinics X Rays. Mr Pardoe: Operations.

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THURSDAY —2.30 P.M., Gynæcological Operations (Dr A. E Giles) Clinics —Medical Out patients (Dr A. J Whiting) Surgical Out patients (Mr Carson) Radiography (Dr Metcalfe) 3 P.M., Medical In patients (Dr R. M. Leslie)

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THURSDAY —5 15 P M Clinical Lecture.

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THURSDAY —6 P.M. Chesterfield Lecture —Dr M. Dockrell: The Diagnosis and Treatment of the late Eruptions of Syphilis

ROYAL INSTITUTION OF GREAT BRITAIN Albemarle-street Piccadilly W

TUESDAY —3 P M., Prof C S Sherrington The Physiology of Anger and Fear (Lecture II)

FRIDAY —5 30 P M Dr L. Hill: The Science of Clothing and the Prevention of Trench Feet

For further particulars of the above Lectures &c , see Advertisement Pages

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MANAGER'S NOTICES

THE INDEX TO THE LANCET

THE Index and Title page to Vol. II of 1915 were given in THE LANCET of Dec 25th 1915

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The Lettsomian Lectures

ON

THE EFFECTS OF HIGH EXPLOSIVES UPON THE CENTRAL NERVOUS SYSTEM

Delivered before the Medical Society of London

By FRED W MOTT, M D Lond, F R C P Lond, Hon LL D Edin, F R S,
MAJOR R A M C (T) 4th London General Hospital Pathologist to the London County Council Asylums

LECTURE I

(Delivered on Feb 7th)

Mr. President and Gentlemen,—Permit me to thank you for the great honour the Medical Society of London has done me in asking me to give the Lettsomian lectures this year The society has been fortunate in having had addresses and discussions on most of the medical and surgical problems concerning the war, with the exception of the effects of high explosives upon the central nervous system in the production of functional neuroses and psychoses As I have had the opportunity of studying these effects I ventured to change the subject which I at first contemplated

The employment of high explosives combined with trench warfare has produced a new epoch in military medical science This war was recently described at a Labour Congress as a barbarous, unromantic machine war Yet in no war of the past has individual courage and self sacrifice shone with greater lustre, for the contemptible little army in the retreat from Mons fought against overwhelming odds and covered itself with glory Again, in the terribly anxious times when the enemy tried to break through to Calais, what could have surpassed the courage and self sacrifice of our men in the trenches on the Yser, or the gallant stand of the Canadians when the Germans sprang the gas upon us? Lastly, the landing of the Anzacs is one of the finest and most romantic deeds in the history of war

High explosives contained in huge shells have played a prominent part in this war, and apart from the effects produced by direct material injury to the central nervous system, there is the *moral* effect of the continued anxious tension of what may happen, which combined with the terror caused by the horrible sights of death and destruction around tends to exhaust and eventually even shatter the strongest nervous system To live in trenches or underground for days or weeks, exposed continually to wet, cold, and often owing to the shelling of the communication trenches to hunger combined with fearful tension and apprehension, may so lower the vital resistance of the strongest nervous system that a shell bursting near, and without causing any visible injury, is sufficient to lead to a sudden loss of consciousness So that in considering the effects of high explosives it is absolutely necessary to take into account the state of the nervous system of the individual at the time of the "shock caused by the explosive A neuro potentially sound soldier in this trench warfare may from the stress of prolonged active service acquire a neurasthenic condition and it stands to reason that a soldier who has become neurasthenic from a head injury or from the acquirement of a disease prior to his enlistment will not stand the strain as well as a neuro potentially sound man Again if in a soldier there is an inborn timorous or neurotic disposition or an inborn germinal or acquired neuropathic or psychopathic taint causing a *locus minoris resistentiæ* in the central nervous system, it necessarily follows that he will be less able to withstand the terrifying effects of shell fire and the stress of trench warfare Thus, whether a tendency to a neurasthenic condition has been acquired or is more or less inborn, an emotional experience such as fright is more liable to develop the symptoms of a functional neurosis or psychosis

The Effects of High Explosives upon the Central Nervous System

The effects of high explosives upon the central nervous system fall into three groups 1 Immediately fatal either from pieces of shell, stones, rocks, or portions of buildings striking the individual, causing instant death, or the person may be buried from the explosion of a mine Again, instant death must have occurred in groups of men from the effects of shell fire and yet no visible injury has been found to account for it This matter I shall discuss more fully later

2 In Group 2 we can place those cases in which the detonation of high explosives has caused wounds and injuries of the body, including the central nervous system, which have not been immediately fatal The number of these cases which do not exhibit any of the functional disorders and disturbances characteristic of what is termed "shell shock" without visible injury, although such individuals have received most serious and fatal wounds from exploding shells, leads one to consider that in a large proportion of cases of shell shock without visible injury there are other factors at work in the production of the nervous symptoms besides the actual aerial forces generated by the explosive

3 The third group includes injuries of the central nervous system without visible injury, and to this group I shall give especial attention, as it is the one of which I have had most experience I include the functional neuroses and psychoses because although there may be no discoverable lesion in a "psychic trauma," yet so complex is the structure of the human central nervous system, and so subtile the chemical and physical changes underlying its functions, that because our gross methods of investigating dead material do not enable us to say that the living matter is altered, yet admitting that every effect owns a cause, a refractory phase in systems or communities of functionally correlated neurons must imply a physical or chemical change and a *break* in the links of the chain of neurons which subserve a particular function As we know, one of the peculiarities of the functional neuroses is not only the sudden manner in which an emotional shock may engender a loss of function, but likewise the sudden manner in which it may be unexpectedly restored by a sudden stimulus of the most varied kind, provided there is an element of surprise That is attention is for a moment taken off its guard I am referring especially to *mutism* The causes of shock to the nervous system by high explosives may be considered under the headings of physical trauma—concussion or 'commotio cerebri' by direct aerial compression or by the force of the aerial compression blowing the person into the air or against the side of the trench or dug out or by blowing down the parapet or roof on to him causing concussion or a sandbag hitting him on the head or spine might easily cause concussion without producing any visible injury

Again, he might be buried and partly asphyxiated or suffer from deoxygenation of his blood by CO poisoning, for, as I shall prove later, these high explosives generate considerable quantities of CO which is inodorous and would not be recognised A man lying unconscious or even conscious and partially buried and unable to move would be very liable to be poisoned by CO and not know anything about it, nor would the rescuers, as the poisonous effects of the gas depend upon the amount in the atmosphere and the length of time to which the individual is exposed to it

A Brief Survey of the Dynamic Conditions of the Central Nervous System, especially in Relation to the Cerebro spinal Fluid and Shock

The whole central nervous system is contained in a closed space, the walls of which are formed by the cranium and spinal column, inside of which is the stout dura mater Within this closed space is the cerebro spinal fluid, which fills up all the space not occupied by blood vessels or tissues The cerebro spinal fluid thus serves to equalise the pressure throughout the whole cranio spinal cavity, moreover, at the base of the brain where the vital centres of the medulla are situated it acts as a water cushion, protecting them from the shock of commotion and concussion The cerebro spinal fluid also serves as a self adjusting mechanism by maintaining a uniform equalisation of the blood supply to the nerve elements during the rhythmical variations of respiration and circulation Now this fluid is incompressible, and under ordinary conditions of pressure from without it serves as a perfect protective mechanism but when large quantities of these high explosives are detonated an enormous aerial compression is instantly generated and it is quite possible that this may be transmitted to the fluid about the base of the brain and cause shock to the vital centres of the floor of the fourth ventricle, causing instantaneous arrest of the functions of the cardiac and respiratory centres Lord Sydenham, one of the highest authorities on the dynamics of explosives, concludes that the forces generated are sufficient to cause instantaneous death, and he has informed me that in the American Medico Military Report it is stated that ' an aneroid showed that the explosion of one of these shells caused a sudden atmospheric depression of about 350 mm of the mercury tube, corresponding to a dynamic pressure of about 10 tons to the square yard One effect of this is to liberate nitrogen suspended in the blood and transform it into bubbles of gas which are driven into the capillary vessels and cause instant death The writer, Surgeon Fauntleroy, is not satisfied with the explanation which "does not take into account the primary air compression by which men are sometimes hurled into the air" He (says Lord Sydenham) considers as I do, that the blow on the body, especially over the heart and abdomen, may cause instant death I have had officers under my care who have been blown in the air considerable distances One Royal Army Medical Corps officer told me he was blown 30 feet another told me that he was blown a considerable distance in a communication trench and lost consciousness for some time, another told me that the effect was like a violent push of irresistible force with a down cushion But I shall have occasion later to refer to this explanation of sudden death when considering the various theories regarding the cause of death of groups of men found in postures and attitudes of the last act of life If aerial concussion by the forces generated by high explosives can cause death without visible injury, I think more probably it would arise from sudden arrest of the medullary centres The stem of the brain surrounded by the cerebro spinal fluid is prevented from oscillating by the nerves which issue from it to pass through the holes in the skull, likewise the spinal cord by the anterior and posterior roots and the ligamentum dentatum is prevented from oscillating A sudden shock of great intensity would be transmitted through this incompressible fluid, and seeing that it not merely surrounds the central nervous system but fills up the ventricles and central canal and all the interstices of the tissues serving as it does the function of lymph it follows that a shock communicated to the fluid of sufficient intensity would make itself felt on all the neurons

The Neuron Doctrine in Relation to "Shock and the Theory of Diaschisis

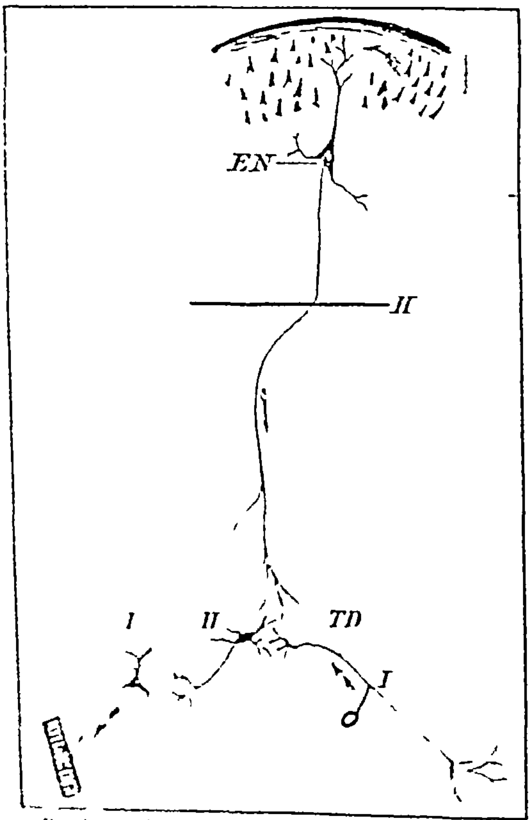
The central nervous system consists of innumerable anatomically distinct nervous units Each consists of a cell with branching processes there is one process the axon, the remaining processes are termed dendrons The axon and dendrons are conductile, the chemical changes incidental to nervous action almost entirely occur in the cell There are two types of neurons the first type of Golgi, in which the axon leaves the grey matter to become surrounded by a myelin sheath to enter into the formation of the white matter, and the second type, in which the axon never leaves the grey matter, these are the intercalary neurons They always intervene between neurons of the first type and in the cerebral cortex they form definite layers especially well developed in the sensory projection centres—e g, of vision and hearing I will endeavour to show how retraction of the branching processes of these intercalary cells would shut off consciousness of the external world These intercalary neurons possess only a small amount of cytoplasm, and are therefore unable to store oxygen Sudden failure of the heart's action by shock, whether of physical or emotional origin, lowers the oxygen tension in the tissues and a dissociation of the sensory projection neurons from the cortical perceptor neurons occurs

The whole of the neurons of the central nervous system may be primarily divided into these two groups 1 Neurons of the first type which may again be divided into sensory or afferent projection motor or efferent, and association neurons 2 Neurons of the second type or intercalary To take a few typical examples of the influence of shock affecting one part of the central nervous system being transmitted through anatomically and functionally correlated neurons to remote parts In hæmorrhage into the internal capsule we have sudden irruption of blood cutting through the pyramidal efferent system of fibres resulting in flaccid paralysis of the opposite limbs (Fig 1) the shock effect has been transmitted to the intercalary neurons at the base of the posterior horn of the spinal cord, and for the time being it has suspended the normal reflex tonus, that is to say dissociation of the sensory projection fibres of the reflex arc has occurred But we know that as soon as the shock effect has passed off a spastic condition supervenes on the flaccid The reason of this is that the normal inhibitory cortical influence has been interrupted and association of the sensory afferent and motor efferent in the reflex arc having been restored by a return to normal function of the intercalary neurons, the reflex tonus is increased by withdrawal of the cortical inhibitory influence Let us take another example of which I have seen several a bullet wound of the occipital region of the skull causes complete blindness, but not deafness After a time the patient is left with hemianopsy, the fact that the wound did not produce deafness shows that it was not general shock to the brain that led to the opposite occipital lobe being temporarily put out of function (Fig 2) The two occipital lobes are anatomically and functionally correlated, and the injury of one lobe caused a functional dissociation by the shock effect transmitted through the association fibres of the splenium This temporary dissociation by shock of anatomically and functionally correlated systems of neurons has been termed by Monakow diaschisis

THE LIVING NEURON IN RELATION TO SHOCK

The researches of Ross Harrison on the living neuron and its growth render it possible to accept as a provisional hypothesis the theory of attraction and retraction of dendrons as an explanation of association and dissociation The intercalary neurons may indeed possess amœboid movement A study of the living neuron shows that totally erroneous ideas may arise if we are guided by the appearances presented by the neurons in sections

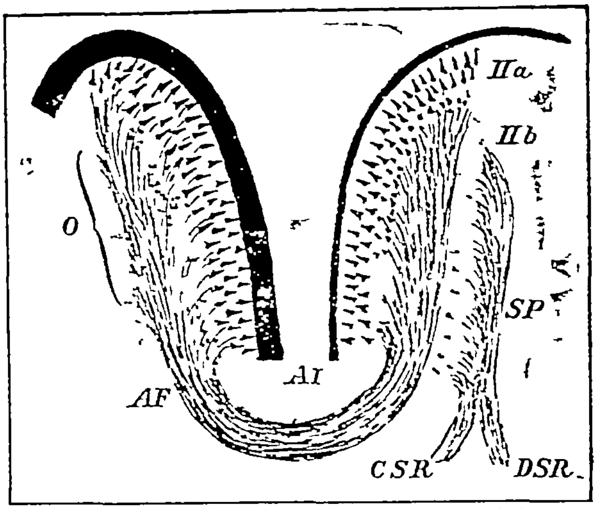
FIG 1



[illegible] neuron of voluntary motor [illegible] in internal capsule [illegible] terminals in [illegible] Temporary [illegible]

after they have been submitted to hardening and fixing reagents Especially is this so in respect to the effect of shock by concussion caused by high explosives The remarkable observations of Colonel Gordon Holmes on gunshot injuries of the spine causing concussion of the spinal cord without penetration by the projectile of the dura mater, show the importance of a consideration of the living neuron The force of the concussion he shows produces most extraordinary changes in the axons which become enormously swollen

FIG 2



Diaschisis O = Injured occipital lobe AF = Association fibres through which shock effect is transmitted to opposite occipital lobe AI = Fibres of splenium II = Two layers of intercalary cells—(*a*) association (*b*) sensory receptors SP = Sensory projection CSR = Crossed sensory receptor fibres DSI = Direct sensory receptor fibres

The condition of the nerve cell may be studied in sections by two methods, in one of which fibrils can be demonstrated by the silver method of Ramon y Cajal, the other by which a basophile staining substance (the Nissl granules) forms a pattern around the nucleus The neuron when damaged by injury or disease shows various changes in the appearances of the cells whether the fibril method of staining be adopted or the Nissl granule method—e g, if the processes of the cell be cut the living neuron is wounded and the body of the cell after it has been killed by the process of fixation and hardening exhibits changes, likewise if the neuron has been damaged by a poison changes are seen, but there is nothing specific about these changes—e g, one could not recognise any difference in the perinuclear chromatolysis of lead encephalitis, alcoholic psychosis experimental anæmia and section of the axons of nerve cells The Nissl granules of basophile substance, as I pointed out in the Croonian lectures 1900[1]—"On the Degeneration of the Neuron"—do not exist in the living cell Nevertheless the amount of this basophile staining substance in the form of Nissl granules may be regarded as evidence of the amount of energy substance (neuro potential) which the cells possessed during life (Fig 3) In the healthy cell it is continually undergoing disintegration and automatic reintegration When the cell is damaged metabolic equilibrium is no longer maintained and its osmotic surface tension is altered and water passes into the cell causing it to swell, displacing the nucleus and causing an appearance of chromatolysis But this basophile staining substance which forms the Nissl granules does not exist as such in the living cells If the living nerve cell be examined by direct illumination no Nissl bodies are seen in the cytoplasm only fine dark granules like an emulsion (Fig 4) If living cells are examined microscopically with dark ground illumination (Fig 5) they are seen to be filled with small granules or globules, each of which after escaping from the cell remains discrete They are refractile and appear white and luminous, this is due to a delicate covering film of a lipoid substance which encloses a colloidal fluid, probably consisting of a solution of salts and cell globulins When the cell dies this colloidal fluid is coagulated and the precipitated proteid substance is massed together into little blocks—the Nissl granules, the intervening denser colloidal substance is continuous with the colloidal substance of the axon and dendrons The film that covers each globule is stainable by vital methylene blue, and a living nerve cell stained by vital blue represents the appearance of an emulsion of minute faintly blue globules If the living cell thus stained be kept in an atmosphere of nitrogen in a warm chamber the stored oxygen is used up and a leuco base is formed, causing the globules to lose their colour, the cell appearing of a greenish tint On admission of oxygen the living cell again becomes blue It thus appears possible[*] that these granules represents a large oxygen surface, like spongy platinum, within the cell When the cells die the lipoidal film of the globulin containing fluid is destroyed, coagulation occurs, and the Nissl granules are formed These facts accord with the knowledge that stimulation of a piece of nerve causes practically no metabolic change or using up of oxygen, therefore the mere conduction of a stimulus along a nerve does no entail loss of neuro potential The chemical processes incidental to the using up of nervous energy in the neuron take place in the cell itself, and for this reason it is that the blood supply of the grey matter is six times that of the white matter In all active neural processes oxygen is used up and carbonic acid is produced which escapes into the circumambient cerebro spinal fluid One stimulu differs from another that is discharged into a cell by variation in modes of motion and it is conceivable that the granules which fill the cell are sensible to the varying modes of motion and a

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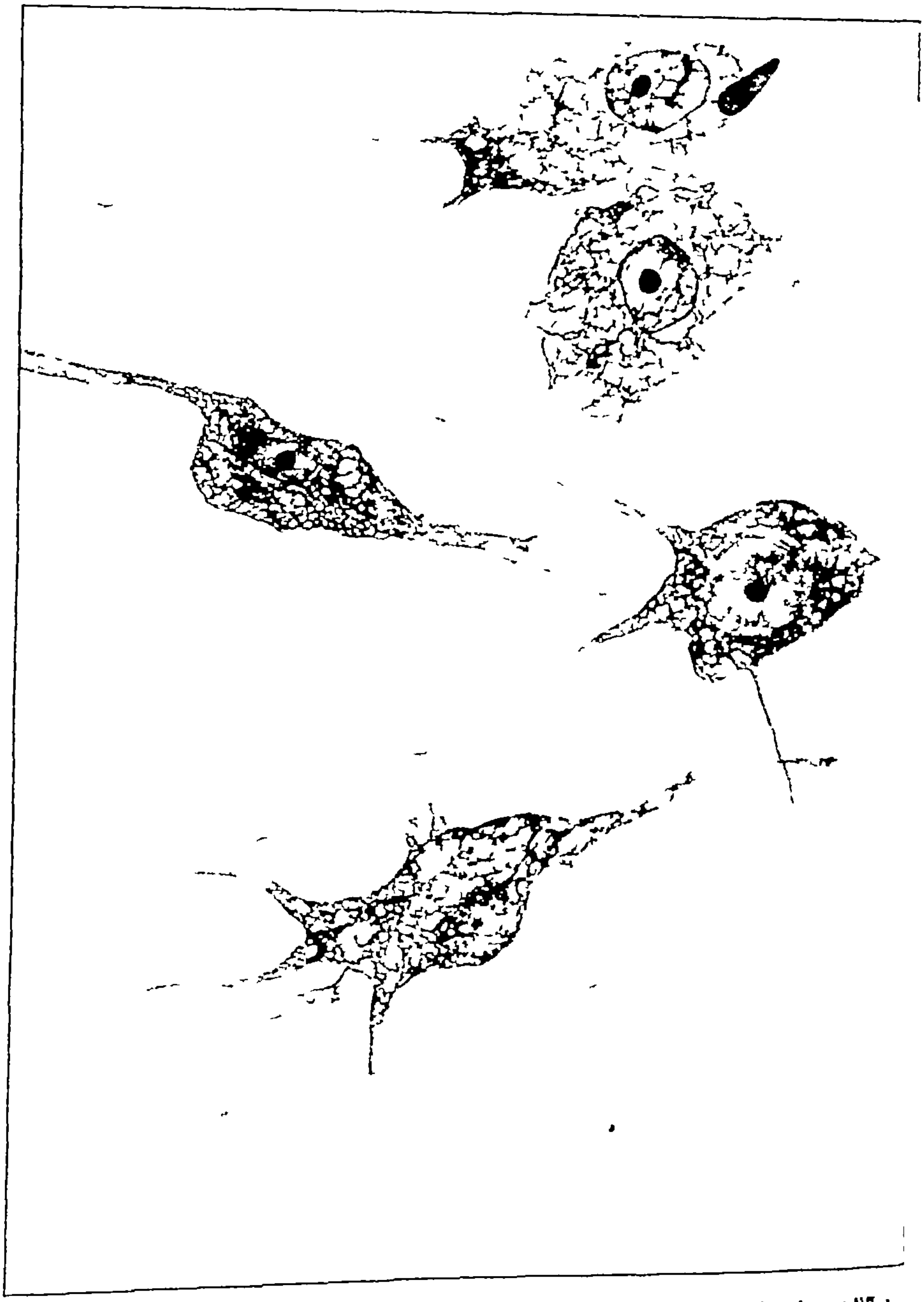
[1] THE LANCET, June [illegible]

FIG 3



Five cells from a case of a man who lived eight hours after receiving an electric shock of 20 000 volts A very dif chromatolysis with loss of basophile staining substance thereby revealing the intracellular and intranu networks is observed Polychrome staining Magnification 810 oft-repeated stimulus suffices by the establishment of a biorhythm in the cell to pass through to the intercalary neuron with little expenditure of neuro potential, whereas a new stimulus which requires a concentration of attention must be either transformed or reinforced before connexion of the terminals of Neuron I with Neuron II (see Fig 1) can take place, and this involves a using up of neuro potential Severe concussion can not only cause immediate dissociation of the cortical perceptor neurons, producing unconsciousness or a disturbance of conscience, but for a varying period of time it can destroy the power of recollection of perceptions prior to the shock. There is a retrograde amnesia and in very severe cases of shell shock, as I shall point out later, there may be a complete loss of memory both as regards recollection and recognition. The loss of recollection may be attributed to dissociation of the higher association systems of

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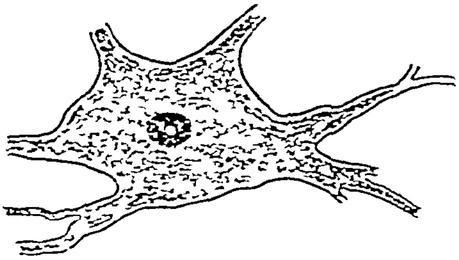
[*] The experiments relating to the living cell were commenced before the war and I have not had time or opportunity to prosecute this research further I therefore put forward this hypothesis tentatively

FIG 4



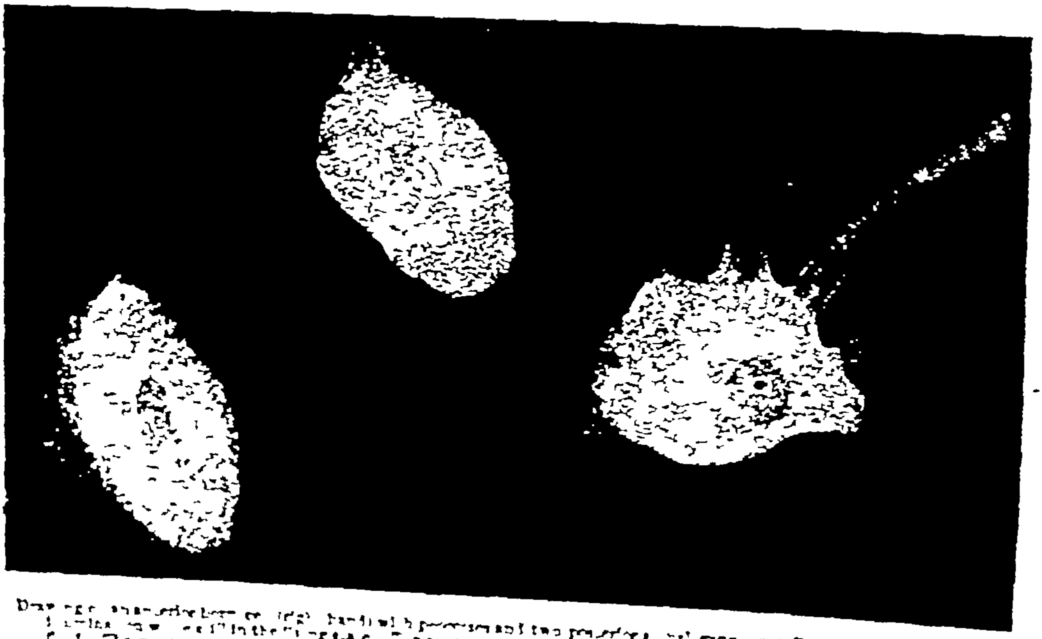
An anterior horn cell of spinal cord examined immediately after death by direct illumination. The grey matter was teased in cerebro-spinal fluid and the preparation examined on a warm stage The cell is seen to possess no Nissl bodies, but is filled with dark granules like an emulsion. (Obj 4 mm oc 4)

from the perceptor systems of neurons Functional blindness and deafness which often persist when consciousness returns may be due to one afferent system remaining dissociated

But why, it may be asked, do we find varying degrees of retrograde amnesia associated with loss of recollection of recent experiences, while those of earlier life may be preserved? Shock so severe or toxic influences such as alcohol do not cause dissociation of the neurons in which habitual actions by frequent repetition have been registered and their revival requires a much less expenditure of neuro potential the more they have become habitual and instinctively automatic For the same reason the earlier experiences have been stored in memory, the more do they form the foundation upon which associative memory rests, for consciously and unconsciously these early experiences have been exerting continually their influence on the subconscious mind by association, and at the same time they have determined and been correlated with habitual and instinctive actions, requiring but little conscious effort and expenditure of neural energy

The delicate granules filling the nerve cells have been termed "neuro bions," as if they were independent living units, but this is *theory* *It is*, however, conceivable that violent concussion transmitted to the cerebro spinal fluid which forms the circumambient medium of such a complex mechanism as the living nerve cell, could cause a violent oscillation of these neuro bions and a loss or disturbance of their functions of variable duration according to the severity of the shock I show here (Fig 3) the appearance presented by the cells of the medulla of a man who died eight hours after receiving a shock of 20,000 volts

FIG 5



[illegible] anterior horn [illegible] cells as seen by dark-ground [illegible] the tissue in warm cerebro-spinal [illegible] In this way the living cells can be observed

[illegible] pyramidal neurons which form a sheet of cells or [illegible] layers covering the whole cortex cerebri The loss of recognition may be attributed to a dissociation between the cortical perceptor systems of neurons and in complete loss of consciousness of the external world there is dissociation of all the afferent projection fibres of subcortical neurons

OXYGEN AND CONSCIOUSNESS

It is known that a *continuous* supply of oxygen is essential for consciousness The bulk of the cortex is supplied by the internal carotid arteries, compression of these arteries causes loss of consciousness in about five or six seconds Histological investigation tends to show that the intercalary neurons have no store of oxygen in their cytoplasm, they depend, therefore, upon a continuous renewal of the oxygen in the circumambient fluid, consequently as soon as the capillary circulation ceases they feel the effect of lack of oxygen and cease to function, causing dissociation to occur Now a violent emotion such as fright can by its influence on the vaso motor centre and the heart's action, causing a fall in the blood pressure, produce an immediate lowering of oxygen tension in the fluid, and thereby suspension of function of the intercalary neurons of the cortex, followed by dissociation of the cortical perceptors and loss of consciousness In many of the disorders of functions and loss of functions of the central nervous system resulting from shell shock, using that term in its widest sense, there occur symptoms of cortical dissociation—e g, cortical blindness, deafness, mutism, and paralysis

The symptoms of headache, weariness, loss of power of concentration, irresolution, and mental fatigue constituting a neurasthenic condition so frequently found as a result of shell shock may be explained by the acquirement of the habit of drawing on the reserve of neuro potential, and being unable through insomnia or sleep disturbed by terrifying dreams, worry, and anxiety to restore the balance and return to the normal conditions of automatic renewal of nervous energy as fast as it is used Physical shock accompanied by horrifying circumstances, causing profound emotional shock and terror, which is contemplative fear, or fear continually revived by the imagination, has a much more intense and lasting effect on the mind than simple shock has Thus a man under my care, who was naturally of a timorous disposition and always felt faint at the sight of blood, gave the following history He belonged to a Highland regiment He had only been in France a short time and was one of a company who were sent to repair the barbed wire entanglements in front of their trench when a great shell burst amidst them He was hurled into the air and fell into a hole out of which he scrambled to find all his comrades lying dead and wounded around He knew no more, and for a fortnight lay in hospital at Boulogne When admitted under my care he displayed a picture of abject terror, muttering continually "no send back,' "dead all round,' moving his arms as if pointing to the terrible scene he had witnessed

THE NATURE OF HIGH EXPLOSIVES AND FORMS OF PROJECTILES

Sir Anthony Bowlby in the Bradshaw Lecture on "Wounds in War' [3] called attention to the nature of high explosive shells and their terrible effects "These shells vary in weight from a few pounds to about a ton, and they consist of a thick iron case containing in a central cavity a violent explosive charge The latter is in the case of German shells trinitro toluene, and may contain as much as 200 pounds of this explosive Such shells are burst upon percussion by a detonator which acts by the impact of the shell upon the ground or on some other object These shells do not contain bullets, and the injury they do is in chief part by the jagged fragments into which they are split by the explosion, and also to some extent by the impact of portions of buildings such as stones or bricks which are scattered with immense force by the violence of the explosion [He might have added sandbags forming the parapet of a trench or the roof of a dug out] The fragments of the shells are always very rough and jagged and of every variety of size and shape For example, the base of a 17 inch shell may weigh 150 pounds, and if it struck the body of a man would completely destroy it Other fragments may weigh a few pounds and may tear off a limb or crush it to pulp, while in the smaller shells there may be scores of fragments about the size of the end of the finger or much smaller It must also be borne in mind that the mere explosive force of the gases of a large shell exercises great powers of destruction The expansion of the gases is sufficient to kill, and in the only case in my experience in which an autopsy has been made the brain was the seat of very numerous petechial hæmorrhages" This brain, by the kindness of Professor Arthur Keith, has come into my possession and the result of the microscopic examination I shall deal with fully in my next lecture Suffice it to say that the appearance it presented led me to suspect CO poisoning But high explosives are used also in mines, and in various other forms of projectiles such as aerial torpedoes, whizz bangs and grenades It is, however, the big shells and mines which are so deadly in producing fatal or serious effects on the central nervous system without visible external signs of injury

The following cases show the great force generated by high explosives

A lieutenant under my care told me that he was in a communication trench when an aerial torpedo exploded close to him He felt a great pressure against him, it was soft but sufficiently powerful to knock him down unconscious He did not know how long he was unconscious but thinks it must have been an hour When he recovered consciousness he got up and was helped away His head felt as if it would burst, and ever since he has had a whizzing in the left ear and dizziness Dreams of bombs and aerial torpedoes bursting There was no parapet to blow down on him

A captain in the R A M C told me that a large shell burst at his back, and he was blown 15 yards by the aerial disturbance

An R A M C officer at the battle of Ypres had a shell explode near him He was not hit, but lay unconscious for six hours He recollects the shock of the shell as he went out of the dressing room For some days he suffered with severe headache and soreness of back of head and down the spine, the lower extremities felt heavy but there was no loss of feeling He had retention of urine for a day only and around the body there was a pain like an appendix pain He rapidly recovered

THEORIES REGARDING CAUSATION OF INSTANTANEOUS DEATH OF GROUPS OF MEN

At various times, from the earliest periods onwards in the war journalists have given vivid descriptions of shell fire causing instantaneous death of groups of men Ashmead Bartlett in his graphic description of fighting in the Dardanelles relates what he found in A Valley of Death ' "In one corner seven Turks with their rifles across their knees are sitting together One man has his arm around the neck of his friend and a smile on his face as if they had been cracking a joke when death overwhelmed them All now have the appearance of being merely asleep, for of the seven I only see one who shows any outward injury How can we explain death without apparent bodily injury yet so instantaneous as to fix them in the life like positions and attitudes thus realistically described? Did rigor mortis come on immediately and what was the cause? Officers and soldiers have told me that they have felt ill and vomited with the gases generated by these high explosive shells A Canadian officer told me that in the first gas attack made by the Germans he felt ill and vomited with the gases generated by the high explosive shells The smell has, like that of bananas, a faint sickly odour that made him feel ill and vomit, and quite different to the "gas" In considering the causation *of fatal* shell shock without visible sign of injury it is necessary, therefore, to take into account chemical changes in the atmosphere together with the physical forces generated by the explosive The effect of the emanation of a poisonous gas was the explanation at first given *for instantaneous* death *without physical* sign of injury, it was widely bruited about that turpinite, a French high explosive, produced a deadly gas which would be quite capable of producing sudden death without visible signs of injury, but the question even then arises, Why should the body remain in a life like position? Many authorities regard it as much more likely *to be* due to the effects of concussion on the nervous system Cases that have recovered after severe concussion without visible sign of injury may, nevertheless, have received physical concussion by sandbags blown down from the parapet into the trench, or if the shell burst in a dug out, the earth may be driven down with great force, burying the inmates A case, however, came under my care, in which there was no history of this happening, from No 6 C C S, 24–25/9/15, as follows —

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[3] THE LANCET Dec 25th 1915 p 1385

This man was blown up by a shell and was found in the dug out with his two comrades, both of whom were dead While here he has been quite insensible to all questions He has been in a *cataleptic* state, with at times convulsive seizures His light reflexes are present

He was removed *to* No 30 C C S I, and further notes state — Reflexes very active *Urine* drawn off 1 pint, when tested showed marked *albumin Both pupils widely* dilated Speaks incoherently occasionally There is *no outward evidence of any injury* or symptoms of pain anywhere *Five days later he was admitted* to the 4th London General Hospital He complained of a strange *feeling* in his head and sweated profusely He was terrified when the corporal in charge shook him to try and stop his shouting and rambling He complained of severe headache of the vertex shook a good deal and said everything in front of him *looked* blurred He could hear and comprehend what was said to him and spoke in reply to questions, subsequently he made a complete recovery

The fact that *there was albumin in the urine* when it was drawn off and *no visible sign of* injury suggests that inhalation of *noxious gases* in a closed space was an important contributory cause of the death of his two comrades and of the severe temporary symptoms which he *manifested* But it might be argued if *poisonous gases generated* by the explosion cause death it is only by *inhalation* while the man is lying on the ground unconscious or partially buried and this would not account for the sudden death where groups of men are found fixed in the last act of life M Arnoux

ground with great violence, but in the case of men leaning against the side of a trench wall only the static depression could affect them What, M Arnoux asks, would be the effect on the human organism of so *powerful* and so sudden a decompression? It would, he answers, be similar *to that* which *causes* the deaths of aeronauts who make too rapid an ascent or of workers in compressed air caissons who leave their caissons *too* quickly and without taking proper precautions for their slow decompression—namely, the sudden escape from the blood of bubbles *of air and* CO_2 which would produce capillary embolism throughout the *body* and cause sudden *death* M Arnoux's *theory* is, then, that the *sudden increase* of atmospheric pressure produced by the explosion is capable of producing an immediate increase and absorption of air and CO_2 *followed by a sudden liberation* on return to normal conditions

Surgeon General Stevenson,[4] commenting upon the theory of M Arnoux, asks "Is it possible that a sudden increase of atmospheric *pressure*, lasting only a *fraction of a second, no matter* how great it might be, *could so charge the blood* with gases that their discharge into the *blood stream* when the pressure ceases would cause death in the same manner as a too rapid return to ordinary atmospheric pressure in caisson workers?" *He advocates* the theory of concussion of *the central nervous* system as the most satisfactory *explanation*, the water jacket of the cerebro *spinal fluid serves as a pro*tection to the vital centres of the medulla under all ordinary conditions of *commotio* cerebri But in *these cases (as M Arnoux s experiments prove)* we are dealing with *extraordinary* conditions of atmospheric pressure a pressure force which we believe is sufficient to cause a temporary loss of consciousness, temporary blindness, deafness, paralysis, and loss of speech without any *visible signs of injury* If the functions *of the higher centres are for* a time instantaneously *suspended by the shock, it is* conceivable that in the severest cases the functions of the vital centres *of* the medulla *may be* instantaneously suspended by its concussion, *moreover, the hæmorrhages* in the corpus callosum and the basal ganglia found in the *brain referred to* might be explained by the fact that the ventricles are *filled* with incompressible fluid to which the violent shock is transmitted

The cases that have recovered after *severe shell* shock very rarely show signs or symptoms of organic disease

But suppose the air is charged with *carbon monoxide* and oxides of nitrogen, would it *not* be *possible* for the man to inspire enough of these *gases to cause* instant death? I wrote to Professor *Leonard Hill* on this subject, and I received the pressure will be equally distributed through the fluids of the body in all directions, and it is not enough to break the thoracic wall by the sudden compression of the gas in the lungs A copper ball with a glass tube sealed up full of air sunk in the deep sea is broken in when the glass tube bursts in spite of a free opening into the copper ball I imagine the thoracic wall might be broken in by a sufficient sudden pressure The elasticity of the atmosphere is such that this does not occur I once carried out some experiments on the effect of exploding heavy charges of gun cotton on pigs A few feet of air was enough to save the pigs from damage When the gun cotton exploded near the ground the soil, stones, &c , were converted into missiles and these wounded the pigs The lungs of these pigs showed some patches of emphysema, as if the sudden wave of air pressure had driven air from one part of the lung into other parts

I should say the men either die, as you suggest from the gases—deoxygenation of blood—or else from concussion

Also through Lord Sydenham I have heard from the secretary of the Trench Warfare Department that it is possible that the partial detonation of a large shell containing, say, 50 to 100 lb of T N T would produce enough carbon monoxide in the immediate vicinity to give rise to the characteristic poisonous effects of this product

Investigations
OF
CLINICAL THERMOMETRY

CONTINUOUS AND QUASI CONTINUOUS TEMPERATURE RECORDS IN MAN AND ANIMALS IN HEALTH AND DISEASE

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PART III *—THE ELECTRICAL RESISTANCE THERMOMETER

IN 1901 Professor Benedict and Dr John Snell published[74] a series of observations on the temperature of the human body measured by means of an electrical resistance thermometer, a form of thermometer now largely used in pyrometer work by Callendar, Feré, and others The method employed was not absolutely automatic or continuous as the electrical circuit had to be closed by hand every minute and the deflection of the galvanometer noted Referring to this method Gamgee remarks —

> Admitting as I *do that Professor Benedict's* observations possess a very much higher value than any which preceded them, I still think that his method left the problem of the automatic registration of the temperature of man unsolved

Three years earlier than this (1898) Adami, who desired to make observations on the diurnal variations of the temperature of the human body, suggested to Professor H. L Callendar,[75] then of Montreal, but afterwards of London, where he collaborated with Gamgee, that he should devise electrical resistance thermometers similar to those used in the pyrometer but specially adapted for recording the temperature of different parts of the animal body

In 1904 Ronald Ross,[76] using a resistance thermometer and recording outfit placed at his disposal by the Cambridge Scientific Instrument Co , obtained 24 hour record temperature curves, a couple of which he publishes He gives the curve, however without marking the temperature at any point except in terms of axillary temperature taken with the clinical thermometer There is no standard therefore for the rectal temperature except that obtained from a comparison with the axillary temperature His curves are, however, of interest as indicating that this method of recording temperatures had now reached the hands of the medical man, having been passed on from the physicist

At the same time similar work was carried on in Germany, and Siemens and Halske constructed an electrical resistance thermometer with switchboard and recording apparatus, the galvanometer needle making a tracing on the flat This apparatus was in many ways admirable, but it had the disadvantage that the record was in the form of the segment of a circle with a radius of the length of the galvanometer needle or lever In 1911 and 1912 Drs Eichler and Schemel[77] published a couple of papers on work done with an improved recorder in which a pointed chopper bar and inked ribbon method of obtaining a dotted record was used The records obtained with this apparatus are excellent

In planning out our work on the temperature of bovine animals in health and disease we soon came to the conclusion that the thermo electric couples above described were too delicate in their construction and required the use of too complicated apparatus We determined, therefore, to adapt the resistance thermometer to our requirements and to use a thread recorder with a stronger phosphor bronze wire suspension, a much more robust instrument than that provided with the delicate suspension essential for use with the thermo electric couple thermometer A switchboard for standardising and fixing the range of temperature was also used With this apparatus we were so successful in obtaining accurate temperature records from animals † that we decided to adopt it for work in the wards, and one of us (P C V J) undertook to adapt the resistance thermometer to the human subject, a thermometer with which all our later work has been done

DESCRIPTION OF NEW OUTFIT

Our new outfit may be considered under the following heads (1) The electric resistance thermometer and its leads, and (2) the switchboard for standardising the recorder by fixing the range and limits of temperature

The thermometer constructed for us by the Cambridge Scientific Instrument Co is a Callendar Griffiths platinum electrical resistance thermometer with certain modifications, the outcome of our experience The essential part of this instrument is a fine platinum wire wound round a couple of strips of mica (Fig 14) notched at both sides and so arranged that they form an elongated frame into the notches of which the coiled platinum wire drops, and is held in position This coil, on its frame, is enclosed in a silver (an excellent conductor) tube, which lies close up to, without coming into actual contact with, the wire

The thermometer coil is connected by comparatively heavy flexible leads, composed of a series of strands of copper wire to the Wheatstone bridge or instrument on which the resistance (and the temperature) is to be measured by means of the deflection of a galvanometer Parallel, and in addition, to these primary leads run two similar copper wires or dummy leads which, though in close proximity to the leads of the platinum coil, are joined at their ends near to, but independent of, this coil These leads are introduced into the side of the bridge opposite to the side to which the thermometer leads are attached, and act as "com pensating" leads (Fig 14 N), thus rendering the outfit practically independent of any changes in the length or temperature of the primary leads The two sets of leads simply throwing in or with drawing equal resistance on both sides of the bridge, no error is introduced, and any length of leads may be used Beyond the actual thermometer part, the platinum wire coil, the leads are held together by, and covered for some distance with, a length of rubber tubing (Fig 14)

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* Parts I and II were published in THE LANCET Jan. 22nd (p 173) and Feb 5th (p 231) respectively

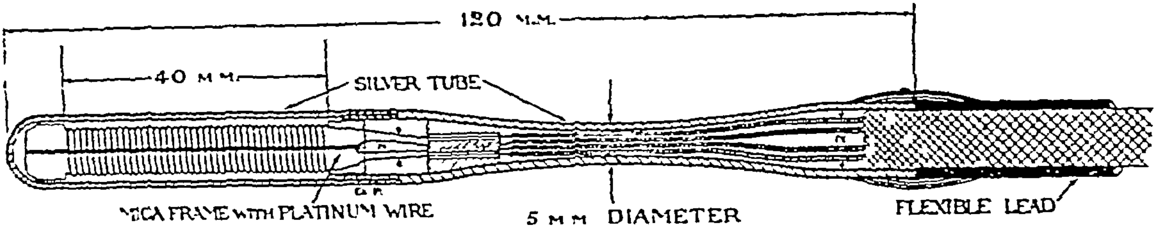
† Journal of Comparative Pathology and Therapeutics Edinburgh and London 1915 vol xxviii pp 337-357

The electrical resistance of the platinum wire varying with the temperature in a very definite manner according to a well known law ‡ it is possible, by measuring this resistance, to determine the temperature to which the platinum, which thus acts as a thermometer, is brought, the variations of resistance and therefore of temperature being registered automatically by the recorder The current used is supplied by a 4 volt accumulator with which an adjustable rheostat is in series This accumulator is thrown into the circuit by being placed across two arms of the bridge (Fig 15)

A skin thermometer, up to the present applied only experimentally, consists essentially of a coil of fine platinum wire of definite and known electrical resistance wound on a silver backing about 1¼ in square and heat insulated from it The platinum is embedded in a "shellac"-ed surface which is intended to be laid flat on the skin, thereby afford ing fairly intimate contact and at the same time ensuring good electrical insulation and immunity from mechanical damage to the wire The silver back has two small silver lugs provided for fixing a holding strap if required The thermometers are supplied with their respective resistance coils, making them interchangeable and enabling them to be used on the same recording instrument as the rectal thermometers Into the leads of each thermo meter a suitable rheostat is introduced with this arrangement any thermometer may be used and all become interchangeable

The recorder is illustrated in Fig 13 the box containing the bridge coils with the plugs and [illegible]

FIG 14



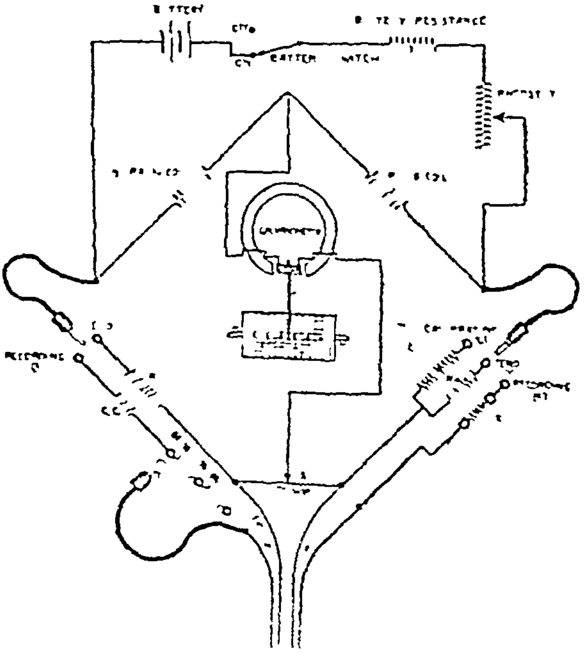
Section of resistance thermometer as used for human subject (to scale)

When the thermometer coil is heated the bridge is thrown out of balance and the galvanometer needle deflected, the deflections over a small temperature range being proportional to the amount the bridge is out of balance—that is to say, to the amount of increase in the resistance of the thermometer coil with a given change in temperature

TESTING THE RESISTANCE

In order to obtain correct temperature readings it is necessary to standardise the thermometer This is a simple procedure and can be done rapidly With the switch off—i e, before any current is passed through the apparatus—the mechanical zero of the galvanometer must be determined The needle should hang at rest at the outermost line (say 96°F) at the lower end of the record If it is not in this position the torsion head, Fig 11 D and Fig 12 D, from which the galvanometer coil is suspended is rotated until the needle hangs on the line This done, the electrical zero should be fixed With the switch still "off" the two plugs shown on the right and left hand sides of the diagram

FIG 15



needle does not then hang correctly it shows that there is too great a resistance on one side or other of the bridge This is corrected by moving the slider (S) right or left on the slide wire (Fig 15, S) A small movement of this slider (or slight rotation of the button in the centre of the switchboard, Fig 13) should bring the galvanometer needle to the correct position—viz., 96°F

The next operation is to test whether the galvanometer needle (E) is deflected correctly for a definite change in the resistance of the circuit This might be done by warming the thermometer, but experience has shown that this is a long process, especially if accuracy be aimed at The simplest plan, therefore, is to introduce a manganin resistance equal to the change in resistance of the thermometer for a definite number of degrees of temperature In practice the equivalent of a change in temperature of 10° F is used Turn the switch off and shift the plug on the right hand side of the diagram from the zero position to that of the calibrating position L and pull the switch "On" This introduces a resistance equal to R, plus a resistance equivalent to a change in the resistance of the thermometer coil for 10° F The galvanometer needle should now be deflected till it marks 106° F If it is not, then the current flowing through the battery circuit is insufficient, and the position of the slider on the battery rheostat must be altered to increase the current passing through the galvanometer until it is deflected through a larger angle—viz, through the equivalent of 10° F on the paper If too large a deflection is given the slider should be moved in the opposite direction in order to reduce the current in the circuit These adjustments having been made, the two plugs are shifted into the recording positions K and K′, and the instrument is ready for use and should operate correctly and without difficulty

The ranges in temperature are varied by means of the travelling plug shown in the compensating leads circuit If a temperature range across the paper from 88° to 98° F is desired the plug is inserted in the plug hole marked 88–98° If a higher range is required the plug is inserted in either of the two other plug holes marked 96–106° and 102–112° respectively (Fig 15)

METHOD OF USE OF APPARATUS

This apparatus, then, consists essentially of (*a*) a platinum wire through which can be passed a constant electric current provided by (*b*) a 4 volt accumulator This current, after passing through the platinum wire, is sent through (*c*) a galvanometer, the deflection to right or left of the galvanometer needle marking the diminished or increased resistance of the platinum wire as the result of change of temperature of that wire The accessory apparatus serves to regulate and standardise the current and to alter the excursion of the galvanometer needle in order that the zero may be fixed and the range of the temperature record adjusted

On studying the diagram (Fig 15) carefully the connexions of the instrument are readily understood and it is an easy matter to take a record Level the apparatus The galvanometer needle should then be at zero before the battery current is thrown in To test this, unclamp the galvanometer needle by turning key, N (Figs 11 and 12) (or in another model move the lever) at the back of the galvanometer which regulates the torsion of the spiral phosphor bronze wire suspending the needle Fix a chart paper on the drum with the numbered side close up to the shoulder at the gear wheel end of the drum, start the clocks and release the fly wheel, G, and the presser bar nipping the inked thread against the paper, a dot is made If this dot falls on the zero line the apparatus is accurately adjusted, if not, the needle should be adjusted by means of the screw as described above This movement is extraordinarily sensitive and requires some considerable care in its use, but once the correct zero is obtained there should, under ordinary conditions, be no further demand for adjustment

When standardising the current take care to keep the battery fully charged With the battery so charged the current is thrown into the circuit, but not into the leads, by inserting plugs at I zero and I′ zero Throw the switch lever "on" to complete the battery circuit, when the needle should remain at zero If the galvanometer needle is not at zero too much or too little current is passing through the circuit, and this must be counterbalanced by the rheostat The next step is to find the excursion of the needle The current is switched "off" and the two plugs are inserted at I zero and L, when the needle should travel the full length of the scale 10°F but no more If it fails to do this the needle must be brought to the correct position by means of the small sliding resistance (S)

Before making any of the above connexions take great care always to change the lever to "off" otherwise the whole current passing through the galvanometer causes violent deflection of the needle and "strain" of the coil and diminution of its sensitivity may result

The apparatus is now ready for the taking of a record Having inserted the thermometer, slightly warmed, into the rectum, the plugs are inserted at K and K′, the current is switched "on" and the clock started This should be done as soon as the thermometer has had time to register the temperature of the body—about 5 minutes

Bibliography (Part III)—74 Benedict and Snell: Eine neue Methode um Körpertemperatur zu messen Pflüger's Archiv f d ges Physiol Bonn 1901 lxxxviii 492–500 Körpertemperaturschwankungen mit bes Rücks auf den Einfluss welchen die Umkehrung der tägl Lebensgewohnheit beim Menschen ausübt Ibid 1902 xc 33 75 Callendar On the Practical Measurements of Temperature Experiments made at the Cavendish Laboratory Cambridge (abstract) Proc R Soc London 1887 xli 231 and in Phil Trans Roy Soc Lond (A) vol 178 for 1887 (1888) pp 161 239 *Notes on Platinum Thermometry* Phil Mag London (5) xlvii (1899) 191 Electrical Recording Thermometers for Clinical Work (In Memoriam Dr Gamgee) Proc Physical Soc of London 1910 xxii 220 also in Phil Mag London April 1910 (6) xix 532 76 Ross (1904) The Platinum Thermometer and Callendar Electric Recorder for Obtaining Continuous Clinical Temperature Charts THE LANCET [illegible] 555 77 Pichler and Schemel: Ueber die Beeinflussung der Magentemperatur durch verschiedene hydrotherapeutische Applicationen und ihre Messung mit dem Fieberregistrierapparat (nach Siemens and Halske) Deutsch med Wochenschr 1911 Leipzig Band xlviii S 25 also Schemel and Pichler: Ueber Temperaturmessungen im *Darm* mit dem Fieberregistrierapparat von Siemens und Halske bei verschiedenen hydrotherapeutischen Massnahmen Berlin klin Wochenschr 1912 Band xlix S 6)

(*To be continued*)

ROYAL UNITED HOSPITAL BATH—The annual meeting of the subscribers to this hospital was held on Jan 31st The medical report was satisfactory but the financial statement showed a deficiency on the year of over £2000 The chairman (the Mayor) stated that Bath had raised about £25 000 for war funds but the committee hoped that at the termination of the war it would be possible to place the charity again in a sound financial position

DR WILLOUGHBY MASON WILLOUGHBY, the deputy medical officer of the Port of London and for [illegible] boarding medical officer has been appointed by the City Corporation to succeed the late Dr Herbert Williams as medical officer of health of the port

THE AERIAL CONVEYANCE OF INFECTION,

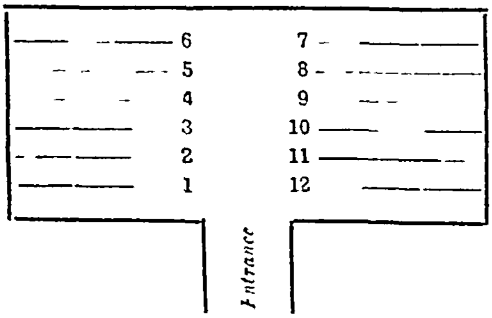
WITH A NOTE ON THE CONTACT INFECTION OF CHICKEN POX

By FREDERIC H THOMSON, M B, C M ABERD, D.P.H.,
MEDICAL SUPERINTENDENT OF THE NORTH EASTERN HOSPITAL, TOTTENHAM N

IN an article published in THE LANCET of June 13th, 1914 (p 1669) Mr Clifford Price and I recorded two years' work on the aerial conveyance of infection in certain fevers This work has been continued with increasing difficulty since the outbreak of war until Sept 29th, 1915, when it had to be stopped owing to shortage in the type of nursing staff, capable of the high standard necessitated, who could be spared for the work Shortly after the outbreak of war Mr Price was required for more important duties elsewhere, and I wish to record how deeply I am indebted to him for undertaking this work and sharing the heavy responsibilities with me

Since a continuation of the investigation has of necessity to be postponed, it seems a fitting opportunity to record the whole of the statistics from the commencement, while avoiding unnecessary repetition of the original article Once more I wish to express my great appreciation of the work of the nurses, and particularly of Sister Helen Turner, who continued in charge of the ward until it was closed

For a clear understanding of the position of the patients in the ward the following plan showing the disposition of the beds is necessary —



The space allotted to each patient is 195 square feet floor space and 15 lineal feet wall space Commencing Feb 12th 1912 497 patients were treated during a period of three years and somewhat over seven months As a number of these patients suffered from more than one disease the number of individual diseases is necessarily more and amounted to 657

TABLE I —Showing the Number of Patients Treated and the Diseases from which they Suffered

Scarlet fever (with 2 secondary cases) ..	[illegible]	Scarlet fever and whooping cough	1
Scarlet fever and diphtheria (1 secondary scarlet fever case)	[illegible]	Scarlet fever and varicella (1 secondary scarlet fever case)	3
Scarlet fever and diphtheria and [illegible]	[illegible]	Scarlet fever and mumps	
Scarlet fever and [illegible] and vaginal discharge	1	Scarlet fever and incipient measles	1
[illegible]	1	Scarlet fever and [illegible]	[illegible]
[illegible]	2	Scarlet fever and vaginal discharge	
[illegible]		[illegible]	
[illegible]		[illegible]	1
[illegible]	1	[illegible]	[illegible]

TABLE I (Continued)

Diphtheria and whooping cough	5	Tonsillitis and varicella	1
Diphtheria and mumps ..	6	Scabies ..	2
Diphtheria and varicella ..	4	Pneumonia	2
Diphtheria and rubella	1	Erysipelas	1
Diphtheria and Vincent's angina	1	Tonsillitis ..	19
Diphtheria and vaginal discharge ..	1	Mastoiditis	1
Whooping-cough	41	Faucitis	7
Whooping-cough and varicella	2	Pyrexia	2
Whooping-cough and rubella	1	Erythema simplex	7
Whooping-cough and mumps	4	Conjunctivitis	1
Varicella ..	9	Laryngitis (non-diphtheritic)	1
Varicella and mumps	1	Urticaria	1
Mumps ..	2	Burns	2
Rubella ..	11	Vaginal discharge	1
Incipient measles	1	No obvious disease	32
		Total ..	497

TABLE II —Showing (separating out the Combined Diseases) the Number of Cases of each Individual Disease

Scarlet fever	256	Pneumonia ..	2
Diphtheria ..	104	Erysipelas	1
Varicella (including 9 secondary cases left in ward) ..	63	Tonsillitis ..	20
Whooping-cough (including 2 secondary cases left in ward)	75	Mastoiditis	1
Mumps	23	Faucitis ..	7
Incipient measles	2	Pyrexia	2
Rubella ..	41	Erythema simplex ..	7
Vincent's angina ..	2	Conjunctivitis	1
Scabies ..	2	Urticaria	1
Vaginal discharge ..	9	Burns ..	2
Tinea tonsurans ..	3	No obvious disease	32
Laryngitis (non-diphtheritic)	1	Total	657

TABLE III —Days' Stay in Ward

Number of patients ..	497
Aggregate number of days spent in ward	13 146
Average number of days spent in the ward by each patient	26 31

TABLE IV —Age periods

	Males	Females
Under 1 year ..	6	6
1-2 years	19	24
2-3 ..	37	33
3-4 ..	28	35
4-5	34	37
5-10 ..	90	134
10-15 ..	3	10
15-20	1	—
Total	218	279
	497	

TABLE V —Showing the Day of Disease on which Cases were Admitted to the Ward

Disease	First day	Second day	Third day	Fourth day	Fifth day	Sixth day	Seventh day	Second week	Third week	Fourth week	Over 4 weeks	Total
Scarlet fever	8	21†	53	41	10	8	5	14	19	13	64	256
Diphtheria	—	4	7	18	6	4	12	19	10	3	21	104
Whooping-cough	4‡	4	4	9	7	—	6	19	4	1	12	75
Varicella	12*	4	31	7	2	3	1	3	—	—	—	63
Rubella	32	6	—	2	—	—	—	1	—	—	—	41
Mumps ..	16	3	2	1	1	—	—	—	—	—	—	23
Measles ..	2	—	—	—	—	—	—	—	—	—	—	2
Total	74	42	97	73	26	15	24	56	33	17	97	[illegible]

1 septic † 3 septic [illegible] septic 3 septic § 2 infected in ward
* 9 infected in ward

Secondary Infections

All secondary infections that arose in the ward are called attention to below

1 *Scarlet fever* —256 cases of scarlet fever, including 11 secondary cases were treated in the ward and, in addition 2 cases which were infected in the ward. Of these 256 cases 146 were admitted during the first week of the disease and 110 at a later period One case of secondary infection occurred on Dec 2[illegible]th 1913, the other on the

following day, and both were left in the ward As suggested in the former article, the more likely mode of infection was the inadvertent admission of a nurse to duty in the ward who was suffering from a septic finger, and who consequently was unable to wash her hands thoroughly It is well, however, to record one doubtful secondary infection in January, 1915 This was a case of diphtheria and whooping cough which developed a rash resembling scarlet fever, but I regarded the rash as being the result of the serum treatment for diphtheria I admit the case may have been one of scarlet fever, and that I erred in my diagnosis, but the balance of the evidence was in accord with my conclusion

2 *Diphthera* —104 cases were treated. Of these, 51 were admitted during the first week of the disease and 53 at a later period. No secondary cases occurred

3 *Rubella* —41 cases of rubella were treated Of these, 32 were admitted on the first day of the disease, 6 on the second day, 2 on the fourth day, and 1 on or about the eighth day No secondary cases occurred

Several scarlet fever convalescents who had been exposed to rubella in other wards were admitted on the chance that they might develop the disease and so help to show if aerial conveyance would take place before the advent of the eruption None of these developed rubella Two of the nursing staff of the ward contracted the disease The first had the rash on April 10th, 1915 and she was on duty in the ward on April 8th The second developed the rash on April 13th, 1915 and she was on duty up to 8 A M on the 12th and not afterwards No infection arose from these contact exposures

On one occasion an opportunity arose of placing two first-day cases of rubella into the ward at the same time and advantage was taken of it On another occasion a first-day case and a second day case were placed in the ward at the same time

4 *Mumps* —23 cases of mumps were treated Of these, 16 were admitted on the first day of the disease, 3 on the second day, 2 on the third day, 1 on the fourth day, and 1 on the fifth day On two separate occasions two first-day cases were admitted at the same time, but no infection resulted from these double introductions One infection of mumps arose and the infected patient occupied Bed 7 There were two possible sources of infection One patient admitted on the first day of the disease occupied Bed 2, and another admitted on the third day occupied Bed 9 Counting from the first day of exposure the incubation period in the former case would have been 35 days and the latter 15 days If infection was aerially conveyed I favour the former source I am doubtful, however, whether this infection may not have been due to some fault in the nursing technique

5 *Whooping-cough* —75 cases were treated, including 2 infected in the ward Of these 34 were admitted during the first week of the disease including the two infected in the ward, 19 were admitted in the second week and the remainder at a later period of the disease Five cases of infection occurred all of which are described in the original article Since July 15th 1913, there has been no whooping-cough infection, although 48 cases have been treated since that date

6 *Measles* —No case of measles was knowingly admitted to the ward, but 2 cases admitted with other diseases were incubating measles Both were productive of secondary cases, as described in the original article

7 *Chicken-pox* —63 cases were treated including 9 infected in the ward Of the 54 cases introduced, 3 were admitted on the first day of the disease, 4 on the second day, 31 on the third day, 7 on the fourth day, 2 on the fifth day, 3 on the sixth day, 1 on the seventh day, 2 on the eighth day, and 1 on the tenth day The 3 cases admitted on the first day of the disease all had fresh crops of lesions afterwards and 1 was an infecting case This case had fresh crops of lesions until the fourth day and infected two patients The 4 cases admitted on the second day had fresh crops of lesions in two instances one a copious crop Three of these infected one patient each, the 2 with fresh crops after admission and one of the others Of the 31 cases admitted on the third day 4 had a fresh crop of lesions next day 2 of which were copious crops, 1 of the cases with a copious crop was in Bed 6 and infected the occupant of Bed 8 The other three cases did not cause infection Of the remaining 27, 2 proved to be infecting cases, and will be described below

A few of the earlier cases of chicken pox received "special nursing," which meant that the senior nurse on day or night duty was detailed off to look after the chicken pox case and was not allowed to touch any other patient except protected ones, and no other nurse was allowed to touch the chicken pox patient or anything connected with him

The 12th case was the last to receive "special nursing" therefore none of the undermentioned cases were so nursed.

19th case.—Bed 1 Third day, fresh vesicles on day of admission, but no fresh lesions in ward Eleven other cases in ward, 4 protected 7 unprotected. No infection.

20th case —Bed 1 Tenth day, scabs only Six other cases in ward, 3 protected, 3 unprotected No infection.

21st case —Bed 1 Third day, fresh vesicles on day of admission, but no fresh lesions in ward Eleven other cases in ward, 5 protected, 5 unprotected, 1 doubtful. No infection

22nd case.—Bed 1 Third day, fresh vesicles on day of admission, but no fresh lesions in ward Eleven other cases in ward, 6 protected, 5 unprotected No infection

23rd case —Bed 1 Third day pustules but no fresh lesions in ward. Nine other cases in ward, 3 protected, 6 unprotected No infection

24th case —Bed 1 Third day, fresh vesicles on day of admission and fresh crop day after admission Nine other cases in ward, 5 protected, 4 unprotected No infection.

25th case —Bed 1 Second day, vesicles few in number on admission and a fresh and copious crop day after admission Ten other cases in ward, 6 protected 4 unprotected Infected the occupant of Bed 11, who had been removed to another ward

26th case.—Bed 1 Second day, vesicles but no fresh lesions in ward Nine other cases in ward, 4 protected 5 unprotected. Infected the occupant of Bed 6, who had been transferred to another ward

27th case —Bed 1 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 3 protected, 7 unprotected 1 doubtful No infection

28th case.—Bed 1 Fourth day, scabs only, no fresh lesions in ward Eight other cases in ward, 4 protected, 3 unprotected, 1 doubtful. No infection

29th case —Bed 1 Third day, vesicles but no fresh lesions in ward Eight other cases in ward, 4 protected, 4 unprotected No infection

30th case —Bed 1 Third day, vesicles but no fresh lesions in ward Nine other cases in ward, 5 protected, 4 unprotected No infection

31st case —Bed 1 Third day, vesicles but no fresh lesions in ward Nine other cases in ward, 5 protected 4 unprotected No infection

32nd case —Bed 1 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 7 protected 4 unprotected No infection

33rd case —Bed 2 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 7 protected, 4 unprotected. No infection

34th case —Bed 1, Third day, pustules but no fresh lesions in ward Eleven other cases in ward, 5 protected 6 unprotected No infection

35th case —Bed 1 Third day, vesicles but no fresh lesions in ward Eight other cases in ward, 4 protected 4 unprotected No infection

36th case —Bed 2 Third day, fresh vesicles on day of admission and a fresh and copious crop after admission Eight other cases in ward, 4 protected 4 unprotected No infection

37th case.—Bed 3 Third day, vesicles but no fresh lesions in ward Nine other cases in ward, 4 protected 5 unprotected No infection

38th case —Bed 1 Third day, vesicles but no fresh lesions in ward. Ten other cases in ward, 2 protected, 8 unprotected No infection

39th case —Bed 3 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 5 protected 6 unprotected No infection

40th case.—Bed 8 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 5 protected 6 unprotected Infected the occupant of Bed 7 who had been transferred out of ward

41st case.—Bed 3 Third day vesicles but no fresh lesions in ward Eleven other cases in ward, 3 protected 8 unprotected. No infection

42nd case —Bed 10 Third day, vesicles but no fresh lesions in ward. Eleven other patients in ward, 2 protected, 9 unprotected No infection.

43rd case —Bed 6 Sixth day, scabs but no fresh lesions in ward. Nine other cases in ward, 2 protected, 7 unprotected. No infection.

44th case —Bed 8 Eighth day, scabs but no fresh lesions in ward. Nine other cases in ward, 2 protected, 7 unprotected No infection

45th case —Bed 5 Third day, vesicles but no fresh lesions in ward. Eleven other cases in ward, 2 protected, 9 unprotected. Infected the occupant of Bed 8 who was left in ward and in turn infected the occupants of Beds 6 and 9 No further infections

46th case.—Bed 7 Third day, vesicles fresh crop on day of admission but not in ward Eleven other cases in ward, 4 protected, 7 unprotected No infection

47th case —Bed 10 Third day, vesicles fresh crop on day of admission but not in ward. Eleven other cases in ward, 4 protected 7 unprotected No infection

48th case —Bed 4 Third day, vesicles but no fresh lesions in ward Ten other cases in ward, 5 protected, 5 unprotected No infection

49th case —Bed 4 Eighth day, scabs but no fresh lesions in ward Eight other cases in ward, 5 protected, 3 unprotected. No infection

50th case —Bed 9 Fourth day, vesicles but no fresh lesions in ward. Six other cases in ward, 2 protected, 4 unprotected No infection

51st case —Bed 1 Third day, vesicles fresh crop on day of admission but not in ward Eight other cases in ward, 4 protected, 4 unprotected No infection

52nd case —Bed 6 Third day, vesicles copious crop the day after admission to ward Eleven other cases in ward, 3 protected, 7 unprotected 1 doubtful Infected occupant of Bed 8 who had been transferred to another ward

53rd case —Bed 1 Third day, vesicles fresh crop on day of admission but not in ward Nine other cases in ward, 2 protected, 4 unprotected, 3 doubtful No infection

54th case —Bed 1 Third day, vesicles, fresh crop on day of admission but not in ward Nine other cases in ward, 2 protected 4 unprotected, 3 doubtful No infection

As stated above, 3 out of the 31 third day cases each caused one infection The first (Case 40) was in Bed 8 and infected the occupant of Bed 7 The second (Case 45) was in Bed 5 and infected the occupant of Bed 8 The third (Case 52) was in Bed 6 and infected the occupant of Bed 8

Case 40 was the twenty first case of the series introduced on the third day of the eruption, and the first 19 of the series were each placed next to a protected case or between two protected cases Case 39 was placed between a protected and an unprotected case, and Case 40 between two unprotected cases, and although 39 failed to infect, 40 did The bringing nearer to infection of the unprotected cases may reasonably be considered to add to the danger This course was persisted in until the ward closed, with the result that 6 cases of chicken pox had each been placed between unprotected cases 5 next unprotected cases on one side only and 1 between an unprotected and a doubtfully protected case The only infection was the one recorded above

The next third day infecting case (Case 45) I cannot satisfactorily account for This patient, who occupied Bed 5 was placed between two unprotected cases and did not infect either of them but did infect the occupant of Bed 8, directly on the opposite side of the ward It is to be noted that the occupant of Bed 6 escaped infection from Case 45 he was left in the ward as well as the occupant of Bed 8 from whom he contracted chicken pox Case 45 was not a patient from whom to expect infection for the total number of lesions was quite moderate and there were no fresh lesions on the day of admission or later the second crop having occurred on the day prior to admission to the ward It may be that the occupant of Bed 8 was a peculiarly susceptible child, and that the occupant of Bed 6 could withstand infection to some extent, but responded to a more powerful infection On the whole, however, I think that the occupant of Bed 8 was probably infected by indirect contact due to some error in the nursing technique I am the more disposed to take this view, knowing the difficulty of maintaining the nursing at the highest level at that time

The last third day infecting case (Case 52) might also be attributed to faulty technique, but I do not feel satisfied that such an explanation is justifiable, though the possibility must be admitted This patient was in Bed 6 and infected the occupant of Bed 8, not quite directly opposite, but failed to infect an unprotected child in the bed next to him Case 52 had a large crop of fresh lesions on the day following admission to the ward, which may very well account for the infection On the other hand, it must be remembered that three other third day cases had fresh crops of lesions on the day following admission (one of them a large crop), without causing infection Up to, and including, Case 31, only one third day case of chicken pox was introduced into the ward at the same time It was then thought desirable to introduce two third day cases at the same time if they could be procured This was done with Cases 32 and 33, and they were placed in Beds 1 and 2, and the same course was adopted with Cases 35 and 36 also in Beds 1 and 2 Finally it was done with Cases 46 and 47, who were put into Beds 7 and 10 In this instance two unprotected cases lay between 46 and 47, and another unprotected patient next to 47 on his other side No infection arose from these three double exposures

Comparatively early in the investigation, having introduced a number of third day cases without infection having arisen, I thought that the second day case, early in the series, which had produced infection, might have been exceptional, or possibly due to some error in technique Therefore, I introduced Cases 25 and 26 on the second day of the eruption However, both of these caused infection I subsequently commenced introducing cases early on the third day of the eruption, and a number of these passed through the ward Until Case 40 (the twenty first third day case) caused infection the apparent abrupt stoppage of the conveyance of infection by air was a matter of wonder to me, and could hardly be expected to be constant Yet it appears to hold good that it is unusual under the conditions in this ward for infection to be air borne, even from cases introduced early on the third day It is interesting to note the distances in the ward that the infection of chicken pox was aerially conveyed In all, 15 infections arose On two occasions the infection was conveyed the whole length of the ward, on three occasions about half the length of the ward, and in the remaining ten the distance was short The long and medium distance infections originated from four first day cases and a second day case and the latter accounted for one of the long distance infections

It must be understood that deductions as to the aerial conveyance of infection do not apply to any other conditions than those obtaining in this special ward for the results might be different were the beds closer to each other, the ventilation less good &c I have come to the conclusion that scarlet fever infection is not conveyed by air It has been following day and both were left in the ward As suggested in the former article, the more likely mode of infection was the inadvertent admission of a nurse to duty in the ward who was suffering from a septic finger, and who consequently was unable to wash her hands thoroughly It is well, however, to record one doubtful secondary infection in January, 1915 This was a case of diphtheria and whooping cough which developed a rash resembling scarlet fever, but I regarded the rash as being the result of the serum treatment for diphtheria. I admit the case may have been one of scarlet fever, and that I erred in my diagnosis, but the balance of the evidence was in accord with my conclusion

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3 *Rubella* —41 cases of rubella were treated Of these, 32 were admitted on the first day of the disease, 6 on the second day, 2 on the fourth day, and 1 on or about the eighth day No secondary cases occurred

Several scarlet fever convalescents who had been exposed to rubella in other wards were admitted on the chance that they might develop the disease and so help to show if aerial conveyance would take place before the advent of the eruption None of these developed rubella Two of the nursing staff of the ward contracted the disease The first had the rash on April 10th, 1915 and she was on duty in the ward on April 8th The second developed the rash on April 13th, 1915, and she was on duty up to 8 A M on the 12th and not afterwards No infection arose from these contact exposures

On one occasion an opportunity arose of placing two first-day cases of rubella into the ward at the same time and advantage was taken of it On another occasion a first-day case and a second day case were placed in the ward at the same time

4 *Mumps* —23 cases of mumps were treated. Of these, 16 were admitted on the first day of the disease, 3 on the second day, 2 on the third day, 1 on the fourth day, and 1 on the fifth day On two separate occasions two first-day cases were admitted at the same time, but no infection resulted from these double introductions One infection of mumps arose and the infected patient occupied Bed 7 There were two possible sources of infection One patient admitted on the first day of the disease occupied Bed 2, and another admitted on the third day occupied Bed 9 Counting from the first day of exposure the incubation period in the former case would have been 35 days and the latter 15 days If infection was aerially conveyed I favour the former source I am doubtful, however, whether this infection may not have been due to some fault in the nursing technique

5 *Whooping cough* —75 cases were treated, including 2 infected in the ward Of these 34 were admitted during the first week of the disease, including the two infected in the ward, 19 were admitted in the second week and the remainder at a later period of the disease Five cases of infection occurred all of which are described in the original article Since July 15th 1913, there has been no whooping-cough infection, although 48 cases have been treated since that date

6 *Measles* —No case of measles was knowingly admitted to the ward, but 2 cases admitted with other diseases were incubating measles Both were productive of secondary cases, as described in the original article.

7 *Chicken-pox* —63 cases were treated, including 9 infected in the ward Of the 54 cases introduced, 3 were admitted on the first day of the disease, 4 on the second day, 31 on the third day, 7 on the fourth day, 2 on the fifth day, 3 on the sixth day, 1 on the seventh day, 2 on the eighth day, and 1 on the tenth day The 3 cases admitted on the first day of the disease all had fresh crops of lesions afterwards and 1 was an infecting case. This case had fresh crops of lesions until the fourth day and infected two patients The 4 cases admitted on the second day had fresh crops of lesions in two instances, one a copious crop Three of these infected one patient each, the 2 with fresh crops after admission and one of the others Of the 31 cases admitted on the third day 4 had a fresh crop of lesions next day 2 of which were copious crops, 1 of the cases with a copious crop was in Bed 6 and infected the occupant of Bed 8 The other three cases did not cause infection Of the remaining 27, 2 proved to be infecting cases and will be described below

A few of the earlier cases of chicken pox received "special nursing," which meant that the senior nurse on day or night duty was detailed off to look after the chicken pox case and was not allowed to touch any other patient except protected ones, and no other nurse was allowed to touch the chicken pox patient or anything connected with him

The 12th case was the last to receive "special nursing," therefore none of the undermentioned cases were so nursed.

19th case.—Bed 1 Third day, fresh vesicles on day of admission, but no fresh lesions in ward Eleven other cases in ward, 4 protected 7 unprotected. No infection

20th case —Bed 1 Tenth day, scabs only Six other cases in ward, 3 protected 3 unprotected No infection.

21st case —Bed 1 Third day, fresh vesicles on day of admission, but no fresh lesions in ward Eleven other cases in ward, 5 protected, 5 unprotected, 1 doubtful No infection

22nd case.—Bed 1 Third day, fresh vesicles on day of admission, but no fresh lesions in ward Eleven other cases in ward, 6 protected, 5 unprotected No infection

23rd case —Bed 1 Third day pustules but no fresh lesions in ward. Nine other cases in ward, 3 protected, 6 unprotected No infection

24th case —Bed 1 Third day, fresh vesicles on day of admission and fresh crop day after admission Nine other cases in ward, 5 protected, 4 unprotected No infection

25th case —Bed 1 Second day, vesicles few in number on admission and a fresh and copious crop day after admission Ten other cases in ward, 6 protected 4 unprotected Infected the occupant of Bed 11, who had been removed to another ward

26th case —Bed 1 Second day, vesicles but no fresh lesions in ward. Nine other cases in ward, 4 protected 5 unprotected. Infected the occupant of Bed 6, who had been transferred to another ward

27th case —Bed 1 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 3 protected, 7 unprotected, 1 doubtful No infection

28th case.—Bed 1 Fourth day, scabs only, no fresh lesions in ward Eight other cases in ward, 4 protected, 3 unprotected, 1 doubtful No infection

29th case —Bed 1 Third day, vesicles but no fresh lesions in ward Eight other cases in ward, 4 protected, 4 unprotected No infection

30th case —Bed 1 Third day, vesicles but no fresh lesions in ward Nine other cases in ward, 5 protected, 4 unprotected No infection

31st case —Bed 1 Third day, vesicles but no fresh lesions in ward. Nine other cases in ward, 5 protected 4 unprotected No infection

32nd case —Bed 1 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 7 protected, 4 unprotected No infection

33rd case —Bed 2 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 7 protected 4 unprotected No infection

34th case —Bed 1, Third day, pustules but no fresh lesions in ward Eleven other cases in ward, 5 protected 6 unprotected No infection

35th case.—Bed 1 Third day, vesicles but no fresh lesions in ward Eight other cases in ward, 4 protected, 4 unprotected. No infection

36th case —Bed 2 Third day, fresh vesicles on day of admission and a fresh and copious crop after admission Eight other cases in ward, 4 protected 4 unprotected No infection

37th case.—Bed 3 Third day, vesicles but no fresh lesions in ward Nine other cases in ward, 4 protected 5 unprotected No infection

38th case.—Bed 1 Third day, vesicles but no fresh lesions in ward. Ten other cases in ward, 2 protected 8 unprotected No infection

39th case —Bed 3 Third day vesicles but no fresh lesions in ward Eleven other cases in ward, 5 protected 6 unprotected No infection

40th case.—Bed 8 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward 5 protected 6 unprotected Infected the occupant of Bed 7 who had been transferred out of ward

41st case —Bed 3 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 3 protected 8 unprotected No infection

42nd case —Bed 10 Third day, vesicles but no fresh lesions in ward Eleven other patients in ward, 2 protected, 9 unprotected No infection.

43rd case —Bed 6 Sixth day, scabs but no fresh lesions in ward. Nine other cases in ward, 2 protected, 7 unprotected No infection.

44th case —Bed 8 Eighth day, scabs but no fresh lesions in ward Nine other cases in ward, 2 protected, 7 unprotected No infection

45th case.—Bed 5 Third day, vesicles but no fresh lesions in ward Eleven other cases in ward, 2 protected, 9 unprotected Infected the occupant of Bed 8 who was left in ward and in turn infected the occupants of Beds 6 and 9 No further infections

46th case.—Bed 7 Third day, vesicles fresh crop on day of admission but not in ward Eleven other cases in ward, 4 protected, 7 unprotected. No infection.

47th case.—Bed 10 Third day, vesicles fresh crop on day of admission but not in ward Eleven other cases in ward, 4 protected 7 unprotected No infection

48th case.—Bed 4 Third day, vesicles but no fresh lesions in ward Ten other cases in ward, 5 protected, 5 unprotected No infection

49th case —Bed 4 Eighth day, scabs but no fresh lesions in ward Eight other cases in ward, 5 protected, 3 unprotected No infection

50th case —Bed 9 Fourth day, vesicles but no fresh lesions in ward Six other cases in ward, 2 protected, 4 unprotected No infection

51st case —Bed 1 Third day, vesicles fresh crop on day of admission but not in ward Eight other cases in ward, 4 protected, 4 unprotected No infection

52nd case —Bed 6 Third day, vesicles, copious crop the day after admission to ward Eleven other cases in ward, 3 protected 7 unprotected 1 doubtful Infected occupant of Bed 8 who had been transferred to another ward

53rd case —Bed 1 Third day, vesicles fresh crop on day of admission but not in ward Nine other cases in ward, 2 protected, 4 unprotected 3 doubtful No infection

54th case —Bed 1 Third day, vesicles, fresh crop on day of admission but not in ward Nine other cases in ward, 2 protected, 4 unprotected, 3 doubtful No infection

As stated above, 3 out of the 31 third day cases each caused one infection The first (Case 40) was in Bed 8 and infected the occupant of Bed 7 The second (Case 45) was in Bed 5 and infected the occupant of Bed 8 The third (Case 52) was in Bed 6 and infected the occupant of Bed 8

Case 40 was the twenty first case of the series introduced on the third day of the eruption, and the first 19 of the series were each placed next to a protected case or between two protected cases Case 39 was placed between a protected and an unprotected case, and Case 40 between two unprotected cases, and although 39 failed to infect, 40 did The bringing nearer to infection of the unprotected cases may reasonably be considered to add to the danger This course was persisted in until the ward closed, with the result that 6 *cases of* chicken pox had each been placed between unprotected cases, 5 next unprotected cases on one side only and 1 between an unprotected and a doubtfully protected case The only infection was the one recorded above

The next third day infecting case (Case 45) I cannot satisfactorily account for This patient, who occupied Bed 5 was placed between two unprotected cases and did not infect either of them but did infect the occupant of Bed 8 directly on the opposite side of the ward It is to be noted that the occupant of Bed 6 escaped infection from Case 45 he was left in the ward as well as the occupant of Bed 8 from whom he contracted chicken pox Case 45 was not a patient from whom to expect infection for the total number of lesions was quite moderate and there were no fresh lesions on the day of admission or later the second crop having occurred on the day prior to admission to the ward It may be that the occupant of Bed 8 was a peculiarly susceptible child, and that the occupant of Bed 6 could withstand infection to some extent, but responded to a more powerful infection On the whole, however, I think that the occupant of Bed 8 was probably infected by indirect contact due to some error in the nursing technique I am the more disposed to take this view, knowing the difficulty of maintaining the nursing at the highest level at that time

The last third day infecting case (Case 52) might also be attributed to faulty technique, but I do not feel satisfied that such an explanation is justifiable, though the possibility must be admitted This patient was in Bed 6 and infected the occupant of Bed 8, not quite directly opposite, but failed to infect an unprotected child in the bed next to him Case 52 had a large crop of fresh lesions on the day following admission to the ward, which may very well account for the infection On the other hand, it must be remembered that three other third day cases had fresh crops of lesions on the day following admission (one of them a large crop), without causing infection Up to, and including, Case 31, only one third day case of chicken pox was introduced into the ward at the same time It was then thought desirable to introduce two third day cases at the same time if they could be procured This was done with Cases 32 and 33, and they were placed in Beds 1 and 2, and the same course was adopted with Cases 35 and 36, also in Beds 1 and 2 Finally it was done with Cases 46 and 47, who were put into Beds 7 and 10 In this instance two unprotected cases lay between 46 and 47, and another unprotected patient next to 47 on his other side No infection arose from these three double exposures

Comparatively early in the investigation, having introduced a number of third day cases without infection having arisen, I thought that the second day case, early in the series, which had produced infection, might have been exceptional, or possibly due to some error in technique Therefore, I introduced Cases 25 and 26 on the second day of the eruption However, both of these caused infection I subsequently commenced introducing cases early on the third day of the eruption, and a number of these passed through the ward Until Case 40 (the twenty first third day case) caused infection the apparent abrupt stoppage of the conveyance of infection by air was a matter of wonder to me, and could hardly be expected to be constant Yet it appears to hold good that it is unusual under the conditions in this ward for infection to be air borne, even from cases introduced early on the third day It is interesting to note the distances in the ward that the infection of chicken pox was aerially conveyed In all, 15 infections arose On two occasions the infection was conveyed the whole length of the ward, on three occasions about half the length of the ward, and in the remaining ten the distance was short The long and medium distance infections originated from four first day cases and a second day case and the latter accounted for one of the long distance infections

It must be understood that deductions as to the aerial conveyance of infection do not apply to any other conditions than those obtaining in this special ward for the results might be different were the beds closer to each other, the ventilation less good, &c I have come to the conclusion that scarlet fever infection is not conveyed by air It has been held for many years that the infection of diphtheria is not air borne, and the evidence in this ward only makes it clearer that this opinion is correct

I am disposed to regard the evidence as strong against the conveyance of rubella infection by air A considerable number of the cases of rubella introduced into the ward during the winter of 1914–1915 came from two scarlet fever wards into which the infection had come from outside the hospital, and in these two wards the infection persisted for many weeks although new patients were not admitted Such persistence of infection in this disease is uncommon, and therefore indicated unusual activity

I was surprised when an infection arose from mumps (if the infection was aerially conveyed), and I still incline to the view that this disease is probably not air borne

The last infection of whooping cough occurred on July 15th, 1913, although since that time 48 cases have been treated in the ward Nevertheless I confess I am still in doubt as to whether this disease may be occasionally air borne or not, Taking into consideration the propelling power of the cough, I feel that longer experience is necessary before a reliable conclusion can be reached

I am quite satisfied that chicken pox infection is air borne early in the disease, but it is difficult to determine the exact time it ceases to be so It may uncommonly be conveyed by air on the third day, but apparently not afterwards

A Note on Contact Infection in Chicken pox

Although it is safe to treat chicken pox at certain stages of the disease in this special ward with all its precautions against direct and indirect contact infection, it does not follow that it would be safe to treat it in a similar, or even scabbing, stage in an ordinary ward where no such precautions were taken It is commonly held that chicken pox remains infectious until the last scab has separated from the patient s skin For many years I have been unable to accept that view, and I have often placed patients who were approaching the completion of the scabbing stage into wards amongst children who were not suffering from chicken pox With the intention of working this subject out systematically I decided towards the end of 1914 to introduce cases of scarlet fever and chicken pox into a small boys scarlet fever ward, but not to guard against contact infection in any way I purposely chose a ward in which the patients were young, and the ages of the unprotected exposed to the cases of chicken pox were—one year, 1, two years, 5, three years, 8, four years, 13, five years, 12 six years, 15, seven years, 2, and eight years, 5 As it was necessary that the patient introduced should be a male suffering from both scarlet fever and chicken pox, and that no other patients should be admitted to the ward while each test was in progress &c the work was necessarily slow In all, 7 patients suffering from both diseases passed through the ward 1 being introduced on the sixteenth day of chicken pox, 1 on the twelfth day 1 on the eleventh day, 1 on the tenth day 2 on the ninth day and 1 on the eighth day Only one case was introduced at a time, and was kept in the ward until all the scabs had separated, or longer while no patient was discharged until more than 22 days had elapsed after the first exposure, many being kept much longer No infection arose from any of these cases The ward in which this work was done accommodated 20 patients

1st case —Sixteenth day of chicken pox, numer scabs Nineteen other patients in ward 12 protect 5 unprotected, 2 doubtful No infection

2nd case.—Eleventh day, a few scabs Eight other cases in ward 12 protected, 5 unprotected, 1 doub No infection

3rd case.—Tenth day, moderate number of scabs Ni teen other cases in ward 5 protected, 12 unprotect 2 doubtful No infection

4th case.—Ninth day, scabs fairly numerous Eighte other cases in ward 9 protected, 7 unprotected 2 doubtf No infection

5th case —Twelfth day, scabs fairly numerous Ni teen other cases in ward 10 protected, 9 unprotected. infection

6th case —Ninth day, scabs very numerous Eighte other cases in ward 9 protected, 8 unprotected, 1 doubtf No infection

7th case.—Eighth day, moderate number of sca Nineteen other cases in ward 4 protected, 15 unprotec No infection.

Although only seven cases of chicken pox in t scabbing stage have passed through the ward yet, it is sufficient to show that I was justified my disbelief of the generally accepted view Wh it is interesting that the last case was introdu as early as the eighth day, yet it will probably t a considerable time to discover the exact day of t disease on which the chicken pox patient ceases be a danger to those with whom he comes contact Nevertheless, enough has been done lead to economy in the provision of isolat accommodation for this disease in hospitals, a to show that it is needless to keep the chicken p patient separate from others for so long as generally supposed necessary

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THE UREA CONTENT OF THE CEREBR SPINAL FLUID

WITH SPECIAL REFERENCE TO THE DIAGNOSIS OF URÆMIA

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IN recent years a considerable amount of wo has been carried out, chiefly by French observe on the urea content of the cerebro spinal flu Mestrezat, who has collected the data of Jav Dirksen, Widal, Froin, Froment, and many othe and who has made many additional observatio has come to the following conclusions 1 T normal physiological urea content of the cereb spinal fluid is 0 006 per cent 2 Cases of re impermeability to urea without uræmia may sh up to 0 1 per cent of urea and occasiona individuals may have a larger quantity witho showing clinical signs 3 Cases of clinical uræ in which no other disease is present (i e ' p uræmia) have been found to have 0 093 0 634 per cent, and of these cases those w readings below 0 3 per cent are curable and th with readings above 0 3 per cent are fatal (Molli and Froment, to whom the terms 'pure a "associated' are attributable, choose 0 4 per ce as the dividing line) 4 Cases of clinical uræm in which some other disease is present (i "associated uræmia) have been found to sh 0 1 to 0 764 per cent of urea 5 The content urea present in the cerebro spinal fluid wheth it be normal or raised, is approximately the sa as in the blood

In determining the figures given below the following methods of collection and determination have been adopted —

1 *Collection of cerebro spinal fluid* —Ante mortem Lumbar puncture has invariably been employed. Post mortem Lumbar puncture has occasionally been employed, but often sufficient fluid has only been obtained with difficulty It has been found that a greater amount could be obtained by one of the following methods (*a*) Puncture of the occipito atlantoid ligament, with or without a skin incision, and drainage of the cerebro spinal fluid from the sub cerebellar cisterna This method of gaining entrance has been described by Dixon and Halliburton, and has been used by Gordon in experiments on monkeys (*b*) When the brain has been removed a No 6 gum elastic catheter is introduced down the spinal canal in front of the cord, and the fluid withdrawn by means of a syringe

2 *Method of determination* —The hypobromite method has been employed 5 c c of the cerebro spinal fluid, centrifugalised if turbid, was mixed with the sodium hypobromite solution (25 c c of 40 per cent potassium hydrate solution in which an ampoule containing 2·2 c.c of bromine had been broken and the solution allowed to cool) and the gas given off was measured as percentages of urea The apparatus was essentially that of a Gerrard s ureometer except that the measuring tube was much narrower (about 12 mm) in order that 0·01 per cent could be read with accuracy Care was taken that the temperature in the mixing bottle was the same at the beginning and end of each experiment, but no allowance was made for small variations caused by alterations in temperature and pressure between separate experiments Chemically the reaction is complicated and the quantity of gas given off is influenced by nitrogenous substances other than urea In blood serum these substances exist in large amount but in the cerebro spinal fluid they are to a great extent absent

Most of the estimations were performed post mortem In nine cases they were performed both post mortem and ante mortem and it was found that the difference between them varied from 0·01 to 0·10 per cent the average post mortem reading being 0·06 higher The results may be collected into the following six groups

Group A *Normal Urea Content*

Owing to the difficulty of obtaining cerebro spinal fluid from perfectly normal individuals no figures have been obtained to determine the urea percentage Seven cases, however being all the cases examined ante mortem, in which there was reason to believe that the kidneys were natural or not materially damaged, show figures which should be comparable with the normal The amounts of urea vary from 0·02 to 0·05 per cent

Group B (vide *Table I*)

The urea content in cases clinically diagnosed as or suspected of [illegible] 0·20 per cent [illegible] post mortem This latter [illegible] average [illegible]

Of the 20 cases 19 were diagnosed as uræmia a [illegible] (No 2) was a suspected case Of those diagnosed 13 correspond to the pure uræmia of [illegible] and have urea readings between 0·23 and 0·83 per cent 6 had some com[illegible] and correspond to the associated [illegible] group In the [illegible] the percentage of urea varied from 0·2[illegible] to 0·51 per cent The age incidence [illegible] the majority of the patients was that of the first half of life No 114 is the only case of acute nephritis examined The patient died on the twenty ninth day after the commencement of scarlet fever As regards the blood pressure, the average of all the readings obtainable (occasionally more than once from the same patient) was 160 mm of mercury, and the average weight of the heart in adults was 15 oz.

TABLE I

No of case	Sex and age	Associated disease if any	Blood pressure (mm Hg)	Albumin in urine (per cent)	Weight of heart (ounces)	Urea percentage—	
						Ante mortem	Post mortem
1	M 39	—	230 150	0·3	16	—	0·40
2	M 65	Cerebral hæmorrhage	2 0	0·025	22	0·16	0·20
4	F 27	Malignant endocarditis	—	+	15	0·50	0·51
20	M., c 20	—	—	?	14	—	0·42
23	F 36	—	130	0·24	12	0·43	0·53
27	F 47	—	220	++	13	—	0·65
48	M 29	—	150	0·15	10	—	0·88
50	F 39	—	215 180	++	19	0·65	0·73
53	M., 25	Peritonitis	—	0·4	15	—	0·26
59	M 42	—	180 150	0·05	18	—	0·23
75	F 40	—	220	0·3	19	—	0·41
83	M 53	Double pyonephrosis	112	?	13	0·39	0·43
84	M 41	—	220	0·4	13	—	0·45
93	M 45	—	150	0·18	(No necropsy)	0·72	(No necropsy)
91	F 50	—	145	++	?	—	0·77
95	M 34	—	150	++	(No necropsy)	0·45	(No necropsy)
104	F 25	Pyonephrosis	—	+	9	—	0·44
105	M 33	Tuberculous kidneys		++	12	0·39	0·40
109	F 40	Syphilitic endarteritis	—	++	24	—	0·35
114	M 5	—	—	0·25	?	—	0·41

In the majority of the 19 cases there was a large quantity of albumin present in the urine The remaining case, No 2, was that of a man of old age who had a high blood pressure, a hypertrophied heart and but little albumin in the urine Post-mortem examination revealed a hæmorrhage in the right optic thalamus which was undoubtedly the direct cause of death

Group C (vide *Table II*)

The urea content in cases clinically diagnosed as or suspected of being uræmia in which the reading was below 0·10 or 0·15 per cent. post mortem

Firstly those in which the diagnosis was entirely mistaken—viz. Nos 35 and 92

Secondly, cases of chronic nephritis

(*a*) *Non fatal cases* (Nos. 86 89 and 98) —The patients suffered from various combinations of the following signs and symptoms headache vomiting, dyspnœa œdema diminution of urine, albuminuria, and albuminuric retinitis Twitchings, fits, drowsiness and coma were absent They all three were discharged from hospital in an improved condition, and one case, who had 0·43 per cent of albumin in the urine and marked albuminuric retinitis, was known to have remained in fairly good health for at least six months

(*b*) *Fatal cases* (Nos 33 52, and 71) —Coma was the prominent sign in the first, and fits were present in the remaining two In all three cases cerebral lesions were found on post mortem examination

CASE 71 —The patient, a woman, aged 22, had suffered from headache and vomiting at intervals for 18 months, shortly before admission she noticed swelling of the ankles and face On examination no œdema was found, she had headache vomiting, albuminuric retinitis, and much albumin in the urine which was diminished in quantity She improved under treatment, and the urine increased to physiological amounts. After a month she was able to get up She then developed a left-side facial palsy, with pain and deafness in that ear One evening shortly after she had gone to bed she was found with twitching of the arms and face in an unconscious condition, from which she never completely recovered On post-mortem examination a ruptured aneurysm was found on the anterior communicating artery giving rise to a subdural hæmorrhage over the right hemisphere

Thirdly, cases of cardio vascular disease (arterio capillary fibrosis of Gull and Sutton)—viz, Nos 90, 95, and 97 With regard to the diagnosis of uræmia in cases of this kind and in those with various forms of nephritis proper, a considerable amount of work has been performed at St Bartholomew's Hospital, but has not yet been published The inquiries deal with the clinical diagnosis, the histology of the kidneys, the tests for renal insufficiency, the condition of the fundus oculi, and the variations of the carbon dioxide content of the alveolar air, and though it is beyond the province of this paper to enter into details, yet it may be said that there is a general convergence of opinion that the two conditions are widely different, the one which we are now considering being due to the failing action of the heart beaten by its task Of the cases examined all responded to means taken to ensure more efficient action of the heart and were discharged in a greatly improved condition The maximum blood pressure which these patients show, when not suffering from cardiac inefficiency, is seen to be over 200 mm of mercury

TABLE II

No of case	Sex and age	Disease	Blood pressure (mm Hg)	Albumin in urine (per cent)	Weight of heart (ounces)	Urea per centage— Ante mortem	Urea per centage— Post mortem	Remarks
35	M, 23	Peritonitis	100	++	7	—	0 10	
92	F 30	Obscure anæmia	?	Trace	—	0 03	—	Discharged
86	M 38	Chronic nephritis	140	0·10	—	0·05	—	Discharged improved
89	F 26	,	184–240	0·43	—	0 05	—	
98	F 23		120–160	0·5	—	0·05	—	,
33	M 37	Chronic nephritis Syphilitic pachymeningitis	180	++	22	—	0 15	
52	F 35	Chronic nephritis Cerebral softening	210	++	17	—	0·09	
71	F 22	Chronic nephritis Cerebral hæmorrhage	230	++	13	0·07	0 15	
90	M 53	Cardio-vascular disease	220–180	Trace	—	0·01	—	Discharged improved
95	M. 61		260–120	0 025	—	0·05 0·06	—	
97	M, 38		220–190	0 25	—	0·02	—	

CASE 95 —The patient a man aged 61, had been suffering with headaches for the past few years which were throbbing in character He had had no giddiness nocturnal micturi tion, or shortness of breath On admission on Oct 25th 1914 the heart was hypertrophied but with no valvular disease the temporal and radial arteries were tortuous, the blood pressure was 260 mm of mercury The urine was diminished and contained 0 025 per cent of albumin On Nov 13th his blood pressure was 220 mm of mercury and on the 17th he began to be drowsy On the 18th he was given a hot air bath phlebotomy was performed 8 ounces of blood were withdrawn, and 1¼ pints of physiological saline sol injected and he was fed through the nose. On the 19th he was almost unconscious, the blood pressure was found to be 135 mm of mercury, and lumbar puncture was performed and the urea estimated and found to be 0 05 per cent. He was then given 0·0005 grm of digitalin, and ordered a mixture of strychnine and digitalis The next morning he was somewhat better though still semi conscious but in the afternoon he roused himself suddenly and asked for a cup of tea. From that day his blood pressure gradually rose and he began to get better He was discharged about a fortnight later in a much improved condition with a blood pressure of 190 mm of mercury

Table III shows a comparison of the more important signs and symptoms usually found in the two groups of cases In Column 1 are placed the conditions some or all of which are found in cases clinically diagnosed as being uræmic in which a high urea content is found in the cerebro spinal fluid In Column 2 are the corresponding conditions found in cases of cardio vascular disease in which the patient is suffering from high blood pressure symptoms, but otherwise is in a fairly good state of health Column 2A shows the alteration in signs which occur in various degrees of heart failure in the course of cardio vascular disease Failure of the left side of the heart is followed by fall in blood pressure, diminution in urine dyspnœa, cyanosis, delirium and coma, and failure of the right side, should it supervene by œdema and albumin in the urine A comparison of the signs and symptoms in Columns 1 and 2A clearly demonstrates how one condition may be mistaken for the other, and at the same time shows the value of a urea estimation for purposes of differential diagnosis

TABLE III

—	1 Uræmia.	2. Cardio-vascular disease	2A Cardio-vascular disease when heart failure occurs.
Age	Up to 45	Above 45	..
Sex	Equal proportions	More often males	..
Headache ..	+	+	+
Vomiting	+	+	+
Twitching	+	—	+
Dyspnœa	+	—	+
Cyanosis ..	+	—	+
Delirium	+	—	+
Coma.	+	—	+
Œdema ..	+	—	+
Urine ..	Diminished	Increased	Diminished.
Albumin in urine...	Large quantity	None or trace	Trace or small quantity
Changes in fundus oculi ..	+	+	+
Urea in cerebro-spinal fluid	Much increased	Normal	Normal.
Blood pressure	About 160.	About 200	Fall
Heart.	Slight hyper trophy	Great hypertrophy	..
Kidneys ..	Nephritis type	Vascular type	..

Group D (vide *Table IV*)

Urea content in cases not clinically diagnosed as or suspected of being uræmia in which the reading was above 0 10 per cent. ante mortem or 0 16 per cent post mortem

It is unnecessary to enter into details of these cases, which would unduly lengthen this paper It will suffice to say that the condition of the patients was such that any signs of clinical uræmia present were either altogether masked or attributed, rightly or wrongly, to some other cause

TABLE IV

No of case.	Sex and age	Clinical diagnosis	Urea percentage— Ante mortem	Urea percentage— Post mortem.
9	M., [illegible]	Delayed chloroform poisoning	—	0·25
11	F 63	Cerebral hæmorrhage.	—	0·73
16	F 35	Chronic nephritis general peritonitis	—	0·31
18	F 8	Acute embolic focal nephritis; malignant endocarditis	—	0·33
22	M , 66	Pyelonephritis.	—	0·24
24	M., 3	Tuberculous enteritis	—	0·31
31	M 44	Old tuberculous hip amyloid disease diverticulitis acute ascending nephritis &c	—	0·53
32	M 39	Malignant endocarditis	—	0·18
37	M 2	General tuberculosis	—	0·19
42	M 22	Malignant endocarditis	—	0·25
45	M 48	Carcinoma ventriculi.	—	0·27
51	F [illegible]	Broncho-pneumonia	—	0·20
64	M 50	Arterio-sclerosis cerebral softening	—	0·26
65	M 34	Broncho pneumonia cerebral embolism	—	0·22
79	M 56	Perforated duodenal ulcer	—	0·23
111	M 16	Hydatid disease of liver general tuberculosis	0·16	0·26

Group E

Urea content in cases not clinically diagnosed as or suspected of being uræmia in which the urea content was below 0·10 per cent ante mortem or 0·16 per cent post mortem

This series consists of 55 observations on a large variety of cases, which it is unnecessary to enumerate, and demonstrates the absence of urea in the cerebro spinal fluid in the majority of diseases, even as a terminal event

Group F

This group contains the cases of diabetes examined (ten in number) They show a urea content which varies from 0·07 to 0·34 per cent, and they have been placed apart as the reading obtained by the hypobromite method is erroneous This is shown by the following experiment A solution of urea in water was estimated for urea Dextrose was added to a fresh portion of the same solution and the estimation performed again The second reading was considerably higher than the first, showing that dextrose is at least one of the substances which may cause a high reading in cases of diabetes

From the foregoing observations it appears that —

1 The normal physiological urea content of the cerebro spinal fluid, as measured by the hypobromite method is below 0·05 per cent

2 Cases clinically diagnosed as uræmia fall under two headings (*a*) Those which have a high urea content All were fatal cases Thirteen were uncomplicated renal disease Six were complicated with disease other than renal The remaining one died from cerebral hæmorrhage (*b*) Those which have a low urea content In two the diagnosis was altogether mistaken In three there was chronic parenchymatous nephritis They had œdema or vomiting or both, but no fits were [illegible] They recovered and were discharged in an improved condition Three more suffered with chronic parenchymatous nephritis Fits were [illegible] in two They all died and were found to have cerebral lesions Three had cardio vascular [illegible] and cardiac failure was present They were discharged in an improved condition

3 Cases not clinically diagnosed as uræmia fall also under two headings (*a*) Those with a high urea content They were all cases complicated by disease other than renal, and any signs suggestive of uræmia which may have been present were either masked or attributed to some other cause (*b*) Those with a low urea content

The term "uræmia" is used to group together some or all of a set of signs and symptoms occasionally found in pathological conditions of the kidney It has long been observed that there existed differences between individual cases, which divided "uræmia" into certain types, and it has been proved that excess of urea in the system is not of itself the cause of "uræmia" The term, therefore, is admittedly vague and fallacious, but it seems necessary to retain it, at any rate for the majority of such conditions, as it conveys to the mind a definite group of clinical entities

The number of cases examined in this paper is too small for statistical purposes, but certain points have been observed which give a clue to the differentiation and a clearer prognosis of the various conditions diagnosed as uræmia

Firstly, of the cases so diagnosed which die, the majority are found to have a greatly increased quantity of urea in the cerebro spinal fluid, usually about ten times, and occasionally more than twenty times, the normal amount For these the term "true uræmia" is suggested Sometimes an "associated" disease is present, but more often the condition is "pure," in which case the quantity of urea present tends to be somewhat higher Every case in which a greatly increased quantity of urea has been found in the cerebro spinal fluid has proved fatal within a short period

Secondly, a few cases of large or small white kidney have been diagnosed as suffering from uræmia, and little or no excess of urea has been found in the cerebro spinal fluid Of this group, those which recovered had no fits, and those which died were found to have cerebral lesions

Thirdly, a certain number of cases of cardio vascular disease (arterio capillary fibrosis) are diagnosed as uræmia It has been shown that the signs and symptoms suggesting such a diagnosis can be due to cardiac failure, that the patients respond to treatment directed towards restoring the efficiency of the heart, and tolerate badly treatment directed towards overcoming a toxic condition of the blood and tissues, and that there is no excess of urea in the cerebro spinal fluid For these cases it seems imperative that the term "uræmia" should no longer be employed As long ago as 1872 Sir William Gull was contending with the same fallacy when he spoke thus at a clinical lecture at Guy's Hospital "At the present time there is a dominant idea in respect of chronic Bright's disease with contracted kidney, that the various functional disorders and lesions which occur in its course are chiefly if not entirely connected with a *materies morbi* in the blood to which such disorders and lesions are chiefly referable The theory that all or most of the symptoms in chronic Bright's disease are due to uræmia is frequently fraught with dangerous and destructive effects in practice I call vividly to mind the unhappy results of treatment so directed

The writer is indebted to the members of the staff and to his colleagues in the Pathological Department of St Bartholomew's Hospital for their kind advice and assistance in enabling him to collect

notes and material, and especially to Dr Gordon, who originally suggested the research

The expenses of this work were in part defrayed by a grant from the Government Grant Committee of the Royal Society

Bibliography —Gull Lecture delivered at Guy's Hospital 1872. Brit Med Jour, Dec. 21st 1872. Widal and Froin Gazette des Hôpitaux 1904, p 1182, or C R Société de Biologie 1904 vol lvii Javal et Adler: C R Societé de Biologie, 1906 p 237 1909 vol lxvi Mollard and Froment: Journal de Physiologie et de Pathologie Générale 1909 p 263 Javal et Adler C R *Société de Biologie 1910* vol lxviii Javal Bull et Mem Soc Med des Hôpitaux de Paris 1911, vol xxxii p 627 Widal: Bull et Mem Soc Méd des Hôpitaux de Paris 1911 *vol xxxii.*, p 485 Mestrezat: Le Liquide Céphalo-rachidien &c. 1912. Dixon and Halliburton: *Journal of Physiology* 1913 p 215 Cole: Practical Physiological Chemistry, 1914 Soper and Granat Archives of Internal Medicine 1914

Hampstead N W

PROPHYLACTIC VACCINATION AGAINST HAY FEVER

BY B P SORMANI,

LECTURER ON SEROLOGY AT THE UNIVERSITY OF AMSTERDAM

(From the Laboratory of the Onze Lieve Vrouwe Gasthuis)

IN the hay fever season of last year I had an opportunity of observing the results of vaccination or active immunisation with extract of pollen in 48 cases These patients included three whose cases I dealt with in a previous paper[1]

Noon,[2] who, like Dunbar, considered hay fever a toxic disease, treated the patients before the hay fever season arrived with the toxin itself by applying an extract of the pollen Though this is a prophylactic vaccination he yet applied the treatment according to Sir Almroth Wright's rules of therapeutic vaccination He fixed the quantity of each dose in accordance with the resistance of the patient against the toxin, measuring this quantitatively by the ophthalmo reaction of Elliotson and proposed to begin with a dose of one third of the number of units representing the resistance The succeeding dosage was then settled in accordance with the altered resistance

After Noon's death Freeman, who continued his work, prepared the extract by a method similar to Noon's—viz, freezing and thawing 40 or 50 times the pollen suspended in water Then the fluid, which is slightly green, is centrifuged, and sterilised for ten minutes at 100° C The slight green colour appears about the 30th freezing, as Freeman wrote to me In this way an extract is made of the whole pollen growth of one year, and is used for diagnosis and treatment before the hay fever season begins Freeman[3] commences his treatment generally in October of the preceding year and continues it as long as possible

The treatment here described I began to apply during the winter of 1913–14 in the three cases already recorded The results were very favourable and encouraged me to proceed on the same lines, which were in some respects different from the methods of Freeman Let me explain these differences

First, I rejected Noon's dosage method As the treatment is a prophylactic one I did not see why it should be necessary to regulate the dosage as if the disease existed already Wright's opsono therapeutic rules were made for existing diseases and they keep in view the possibility that an overdose would for a short time neutralise too many antibodies, in consequence of which the infection might progress undisturbedly Wright himself, however, gives up this method if there is any question of a prophylactic treatment I have only to recall his antityphoid inoculation, for which he prescribes the injection of 1000 and 2000 millions of typhoid bacilli with an interval of from 8 to 10 days Undoubtedly the first dose might cause a negative phase lasting for more than 10 days, and consequently the second dose would become dangerous if this vaccination was not a prophylactic but a therapeutic measure The prophylactic vaccination for hay fever may be absolutely compared to this antityphoid vaccination, and I think that dosage in cases like this is only to be determined by what the patient is able to support without any trouble In determining the first dose of 1000 millions of typhoid bacilli Wright probably only considered how many typhoid bacilli a normal man could stand without suffering any serious reaction

I took this into consideration when regulating the dosage of pollen extract, and I found that everyone can support 10 U P as an initial dose without any considerable trouble When, however, more was given for an initial dose the local reaction was very troublesome owing to the extension of the swelling that followed, sometimes being accompanied by itching over the whole body and sometimes by urticaria This at the same time condemns Noon's method of dosage For instance, if the resistance before the treatment is found to be 1500 U P, I should not dare to give 500 U P as an initial dose Moreover, there was another reason why I refused to follow Noon and Freeman in their dosage, a reason which may be only of theoretical interest, however, because I have never tried to prove it After treating a patient for hay fever for some weeks or even months we have not only inoculated toxin, but also a great number of other kinds of albumin found in pollen which have nothing to do with the poisonous fraction If we determine the resistance by ophthalmo reaction we must agree that allergy may be produced for those other albumins, and who can prove that in this way the resultant figure has not been influenced? I, at any rate, could not accept it as a perfect test That a hypersensibility for the pollen extract can be originated is well proved by the fact that now and then urticaria is observed during the treatment There is no reason why this should be caused only by the toxic albumin which causes hay fever

Accordingly in January February, or March I began the treatment by administering a dose of 10 U P, increasing the amount every week as far as possible in each case Generally I proceeded up to 1000 U P, but when the patient showed symptoms of an overdose the increase was very slow or not at all

I altered also the preparation of the extract I ground the pollen by rubbing it with sterile sand and made the extract with distilled water This extract was not boiled, but was sterilised by adding one tenth of its volume of 5 per cent carbol solution, after which salt was added up to 0 85 per cent Of course, carbolic acid was not added to the extract which had to serve for the ophthalmo reaction, but it was boiled for 10 minutes, as Freeman does

Finally, it is a well known fact that the solution of pollen toxin soon loses its antigen power, at least partly Noon and Freeman were of opinion that they might take for granted that the toxin standard did not diminish, founding their opinion on the fact that the ophthalmo reaction was obtained as perfectly with old as with new extract. Nevertheless, I think it is better to use only fresh vaccine for inoculations which is no trouble worth mentioning, as the vaccines made in the simple way described were not less effective than those prepared on Freeman's method.

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[1] Nederl Tydschr v Geneeskunde Nov 28th 1914

[2] THE LANCET June 10th 1911 p 1572. References were given in the paper already mentioned

[3] THE LANCET Sep 16th 1911 p 814 April 25th 1914 p 1178

In each case I first determine the ophthalmo reaction. In most of my patients I found a resistance of 500 U P. The reaction is not sharp, at all events, in my opinion, not such as to serve as a guide to treatment. Notwithstanding this I consider it to be of the highest importance to make an examination in the beginning for diagnostic purposes, for in this way I proved that two cases suspected to be hay fever were something else. If in such a case we inoculate against hay fever without previous diagnosis wrong statistics as to the effect of this treatment are obtained. All other patients showed a clear positive reaction. The lowest resistance which I found was 5 U.P., the highest 5000 U P. Almost all these had been treated in every possible way: the nose had been treated with cautery or scalpel, they had been injected with pollantin and graminol, rhioculin had been used, chalk therapy was applied but all without any success.

Before relating the results of the treatment it may be observed that the past hay fever season, in the opinion of patients not treated prophylactically, was very severe and even more unfavourable than the preceding three years. I saw some very bad cases. The treatment I applied in 1915 was as follows: The initial dosage was always 10 U P. A little reddening and swelling were observed at the place of injection. The dose was increased every week generally as follows: 20, 30, 40, 50, 70, 90 and then beyond 100 more rapidly—thus 150, 200, 300, 400, 500, &c. Various circumstances prevented me from beginning before February, but in a few cases it might have been better to have begun earlier. I believe so, but it is rather an unfounded opinion, for a few patients who began in April, and even in May, were perfectly cured.

In the matter of dosage I had proposed to myself to go when possible up to a final dose of 1000 U P, which appeared to me a very high dose. And so it proved to be, for some patients even it was too high as shown by the resulting symptoms. It also appears that it is often unnecessary to proceed to such a high dose as some patients were well cured with a much lower final dose than 1000 U P.

I think it is desirable to proceed to higher dosage only if during the preceding immunisation nothing has appeared leading to a suspicion of hypersensibility such as general itching or symptoms of an attack of hay fever (irritation and swelling in the eyes, a slight attack of asthma for a short time or anything of that kind). Now and then these symptoms appear and of course are very unpleasant, but I think they are rather difficult to [illegible]. They are not exclusively to be attributed to overdose, for in some cases all appeared even with very small doses. However I am bound to [illegible] of the patients or their physicians [illegible] the symptoms [illegible] disagreeable [illegible] treatment. Moreover I may point out [illegible] I once or twice discovered slight by- [illegible] prophylactically [illegible] I do no [illegible] know to what cause this difference is to be attributed. That these by-symptoms are not prevented by Freeman's method of dosage I learned from a letter from my colleague L—— at Z——, in which he cited the case of a patient, who, in 1914, after the first injection of Freeman's vaccine (pollacin), measured on Freeman's method, had a violent attack of asthma in the night.

At the end of May I stopped the treatment, but I always asked the patients to return at once if any symptom of hay fever appeared. If a patient returned I did not then give so high a dose as in May, but decreased it to 50 or 100 U P for fear of a negative phase. Soon this fear proved not unfounded, for a patient who during the hay fever season had been given once 1000 U.P. wrote to me and described what were undoubtedly attacks.

In the hay fever season itself I had the opportunity of studying the results of therapeutic inoculations in non prophylactically treated patients. In these cases I began with from 5 to 10 U.P., sometimes making no increase at all and sometimes increasing when it seemed necessary, but then only to 25 or 50. The experience in one case proves that 50 U P cannot be given in the hay fever season to non prophylactically inoculated patients without bad consequences. The patient who was already completely cured by from 5 to 25 U.P., had a violent attack after increasing the dose to 50 U.P. I consider these facts to be good ground for believing in the existence of a negative phase, although several vaccino therapeutists doubt this because they have never, or clinically not always clearly, observed it in prophylactic antityphoid vaccinations.

The results of the cases treated during 1915, either by myself or by other doctors after correspondence with me, are as follows:—

1 Of 14 patients I treated prophylactically, 6 were completely cured, 6 felt very little of their former sufferings, whilst 2 considered they had received but little benefit from the treatment.

2 Of 12 patients I treated only phylactically 4 were completely cured, whilst 3 felt more or less relief, and 5 felt no relief at all.

3 Of 19 patients treated prophylactically by other physicians, all found much relief (it is rather difficult to decide from their letters how much or how little), whilst of 3 treated therapeutically all found relief.

This brief summary shows as well as possible the experiences of myself and others. It must be pointed out that it is exceedingly difficult to express in a few words the result of the treatment. Some patients, for instance, are highly enthusiastic about the effect although I had to note slight attacks from which they suffered after a short railway trip. Very often those slight attacks consist only of irritation in the eyes or slight catarrh which anyone who does not suffer from hay fever would scarcely have noticed but which in the patient concerned take the place of previously unbearable conjunctivitis, asthma and catarrh of the whole respiratory tract. By these remarks I desire to show that I have been anxious to err if anything rather on the side of pessimism in compiling and summarising the results. Consequently there is good reason for considerable satisfaction.

Finally I would advise a slow increase of dosage, further to begin as early as possible, and using every time a fresh vaccine to give only so much as will produce a minimum local reaction. The local reddening should not exceed 5 cm. across

Moreover, the patient should be asked repeatedly if he has general itching or slight urticaria, or irritation in the eyes Until we find an animal suitable for experimentation, this therapy will only advance very slowly The experiences of the method already gained are, however, better than the results of a great many older methods of treatment, and this in itself may be regarded as an acquisition In this paper I have endeavoured to prove that it is possible to simplify the method of Noon and Freeman so far as to enable the practitioner to apply the vaccine in these cases without fear of obtaining less good results

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

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A CASE OF FEBRIS COLOMBENSIS

BY G A LURIE, M D CHICAGO,
ATTACHED TO THE AMERICAN RED CROSS SANITARY COMMISSION IN SERBIA

IT may be of interest to place on record a case of febris colombensis I have recently observed in Serbia. On this fever, which was first described by Castellani in Ceylon in 1905, there is very little literature, the only papers on the subject known to me, apart from Castellani's publications, being one by Fulle and one by Spaar This fever, as noted by Castellani, sometimes resembles typhoid or paratyphoid, at other times it is more like Malta fever with several relapses The onset is in most cases slow and gradual, but at times it may be quite abrupt, the general condition of the patient is usually rather severely affected, and a true typhoid state may develop, but very mild cases may also be met with No roseola or other rashes have been noted, and the spleen is seldom palpable, there may be constipation or diarrhœa No case so far has ended fatally, but the general condition may be very severe *As regards complications and sequelæ, cystitis has been noted and osteo* periostitis

The patient, an Austrian, had been prisoner in Serbia since December, 1914 There was nothing worth noting in his past medical history He never had been in the tropics At the end of June, 1915 while in Skoplje (Uskub) he began feeling tired and feverish and was seen several times by me, first as an out-patient at the American Clinique and afterwards at the Second Reserve Hospital The fever was of a subcontinuous type the temperature seldom exceeding 103° F, and it lasted for five weeks, terminating by lysis The general condition of the patient never was very severe No roseola, no enlargement of the spleen, no complication of any kind

The bacteriological examination of the case was carried out with the kind assistance of Mr D de Silva. The blood was examined for agglutination for typhoid paratyphoid A and paratyphoid B, and Malta fever four times—three times during the course of the fever and once two weeks after the fever was over, always with negative results, while it agglutinated B colombensis, Ceylon strain (cultures kindly supplied by Professor Aldo Castellani) in dilutions of 1/40 1/80 and occasionally 1/160 No hæmocultures were carried out, but the stools collected in a large sterile Petri dish were examined bacteriologically in the usual way by plating &c B typhosus and paratyphosus A and B were absent while 4 colonies out of 26 investigated turned out to be bacillus colombensis the others being coli and coli like bacilli

The strain isolated from this patient is identical to the Ceylon strain and corresponds in every particular to the description given by Castellani It is a motile bacterium, Gram negative, does not liquefy either gelatin or serum On agar the growth may be typhoid like, or the germ may grow more abundantly than true typhoid The germ grows well in milk, rendering the medium acid at first alkaline later, and often bleaching it, at times the medium may become permanently acid As regards sugar *reactions, as stated* by Castellani and Spaar *there is no production of gas in* saccharose, raffinose adonite, inulin, inosite, amygdaline, or erythrite while there is formation of gas in dulcite, mannite glucose, maltose, dextrin (very slight), arabinose sorbite, glycerine, isodulcite, galactose, levulose, and salicin

It is interesting *to note the action on* lactose I *can completely confirm* the previous observation *made* by Castellani and Spaar, that the same strain may at times produce a little gas in lactose and at other times none, while the colonies of the germ on MacConkey bilesalt lactose agar are always white, never red

The peculiar inconstant *action of the germ on lactose renders its classification difficult* When it does not ferment lactose, as is often the case when freshly isolated, its cultural characters are very similar to B paratyphosus B, when it produces gas in lactose it is more closely related to B coli The germ, however, as demonstrated by Castellani Fulle, and Spaar is never agglutinated by either paratyphoid B or A serum, nor by any of the many *coli sera tried*

There can, *in my opinion, be no doubt* that the case I have described is one *of febris colombensis* as *Castellani's bacillus* colombensis (1905) was isolated from the stools and the blood agglutinated strongly both the strains isolated from the patient and the original Ceylon strain, while it did not present any agglutination for the typhoid, paratyphoid A and B bacilli, and Malta fever micrococcus Moreover, the agglutination slowly and *gradually decreased after the fever was over* *This case shows that febris colombensis is not limited to the tropics, but is found also in temperate* climates and must be regarded as a cosmopolitan disease

Bibliography—Castellani: Ceylon Medical Reports and Journal of the Ceylon Branch of the British Medical Association 1905 Journal of Tropical Medicine 1913 &c. Fulle: Sperimentale 1914 Spaar: Journal of the Ceylon Branch of the British Medical Association 1914 Journal of Tropical Medicine December 1915

CASE OF INTRACRANIAL HÆMORRHAGE WITHOUT SYMPTOMS OF COMPRESSION

BY P W LAM, M B, CH B EDIN,
AND
ED LAW, M B, CH B EDIN,
RESIDENT SURGEONS DISTRICT HOSPITAL WEST BROMWICH

IT is a matter of common knowledge that cases of head injury admitted to the casualty department of a general hospital often present difficulties in diagnosis, and the following case illustrates one of these difficulties

The patient a man aged 32 whilst cycling down an incline on Jan 1st 1916 collided with a car He was thrown off his bicycle and his head knocked against a post on the side of the road On admission at 9 15 A M an hour after the accident, he was [illegible] scious but could be partially aroused by strong stimuli The pulse was 76 per minute respirations 18 and temperature 99° F The pupils were equal in [illegible] and dilated and reacted sluggishly to light, the conjunctival reflex was present The skin was cold and pale There was a wound on the right side of the scalp extending from before backwards for about 1 inch and situated over the right parietal eminence From this a small quantity of blood was oozing On probing, the wound was found to be quite superficial and no bare bone could be detected No other injuries were present except a bruise over the upper part of the left arm Two hours after admission he vomited a large quantity of coffee coloured fluid and passed urine in bed During the next nine days the temperature ranged from 97° to 93°, pulse from 60 to 140, and respirations from 18 to 30 There was no further vomiting, but involuntary micturition was repeated several times a day and the bowels did not act except by enemata. He was restless during the first four days, but this was never very marked The unconsciousness continued, but he could always be roused, and at times he would utter a few incoherent words No spasms were ever noticed, nor were there any signs of paralysis though these were repeatedly looked for The pupils remained in the same state as on the day of admission The respiration was always easy, never stertorous On the morning of the tenth day the temperature rose to 101°, the pulse to 142 and the respirations to 32. He died at noon

At the necropsy we found the following Under the scalp wound and running at right angles to it, was a very fine fissure in the right parietal bone, beginning at a point on the temporal ridge midway between the anterior and the posterior borders of the bone, and running downwards and forwards, becoming wider as it did so This fissure was then continued into the anterior part of the squamous portion of the temporal bone, and into the greater wing of the sphenoid in the middle fossa of the skull The whole length of the fissure measured 4½ inches On opening the skull we found an extradural clot measuring 2½ inches × 2 inches corresponding to the temporal lobe of the brain, but the brain itself showed no flattening at this part The membranes were uniformly congested The surface of the brain was also congested and œdematous but the interior showed no changes

With a history such as that presented by this case to make a diagnosis was difficult in the extreme, since we could detect no definite signs that compression was present

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WEST CORNWALL INFIRMARY, PENZANCE —At the 107th annual meeting of the friends of this charity, held on Jan 26th, it was stated that the late Mr T B Bolitho had bequeathed £1000 to the funds of the infirmary It was decided to use the money as a nucleus for raising a fund to provide a children s ward, which is much needed

PENSIONS FOR NURSES —In the matter of the charity hitherto known as The Institution for Nurses for Nervous and Mental Disorders of Women ' the Charity Commissioners have at the request of the original trustees promulgated a new scheme for its regulation and administration in substitution for the scheme of 1909-10 which is accordingly repealed Under the new scheme the title of the charity is to be "The Mrs Frances Sophia Caldwell Nurses Fund and the trustees are to be the corporate body called the Royal National Pension Fund for Nurses The operative clauses provide that after payment of expenses of management &c the trustees shall out of the yearly income pay an annual pension of £16 13s 4d to each of nine persons whose names are specified in a schedule, subject to this charge the income shall be applied in paying pensions at such rates as the trustees may fix having regard to the needs and circumstances of the pensioners and the [illegible] circumstances of the charity These pensioners are to be [illegible] nurses who have served for not less than 12 years in connexion with cases of nervous and mental disorders of women and are in necessitous circumstances [illegible] will be granted in the first instance for a term of three years [illegible] [illegible] three years [illegible] year the whole of the income is not expended [illegible]

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF SURGERY

The Use of Condensers in the Diagnosis, Prognosis, and Treatment of Nerve Lesions

A MEETING of this section was held on Feb 2nd, Mr J MURRAY being in the chair

Dr F HERNAMAN JOHNSON read a paper on the Use of Condensers in the Diagnosis, Prognosis, and Treatment of Nerve Lesions

Major C F BAILEY said that it should not be forgotten that the use of the condenser was only one of the methods which could be employed to estimate the degree of deviation of muscular contraction from the normal, it was, however, the most accurate It was important to determine the smallest electric discharge which would just cause the muscle to react. The test should first be applied to the corresponding normal muscle and then, the conditions being unaltered, the affected muscle should be stimulated until the first visible contraction was obtained The value of the stimulus could then be read off from the apparatus He had been using a modification of the Lewis Jones condenser whereby the electric discharge rose by increases of 25 volts from zero to 225 volts, and known resistances could also be thrown in There were two arguable questions connected with the use of condensers (*a*) whether all the muscles of the body react in a way similar to those selected by Lewis Jones, and (*b*) whether the skin resistance is really constant Certain muscles of the foot did not contract to the Lewis Jones condensers of the lowest capacity, and those of the face although they contracted to such condensers, would probably begin to do so to condensers of still lower capacity He had devised his modification to overcome this difficulty By starting with 25 volts and introducing greater resistance, examinations which would otherwise be impossible because of the pain were rendered trustworthy He agreed that the reaction of degeneration gave little information Sensory tests were also very important, and he considered that an estimation of the loss of epicritic sensibility was most valuable if properly carried out He thought that the records of many of the cases of rapid recovery of sensation after operation were largely attributable to faulty methods of testing He did not agree that a tetanising current should be used for treatment

Dr E P CUMBERBATCH said that the introduction of the condenser method marked a great advance because it measured the stimuli employed but he objected to the use of numerals in recording the results of the tests as unscientific. "Reaction of degeneration" was an incorrect term for it could be obtained in undegenerated muscle He had seen muscles which required for their contraction the largest condenser in the box and yet the patient had voluntary control over them He had found that when reaction of degeneration was present and yet voluntary power was retained the nerve was excitable to stimulation and therefore recommended that the nerve trunks should also be tested He thought that this would provide a better indication as to diagnosis and prognosis than testing muscle contraction only Observations at operations were incomplete unless the conductivity of the nerve was tested at the same time as its lesion was inspected He thought that better results would attend treatment also if the ordinary constant current were used to stimulate the nerve and attention was not devoted solely to the muscle He did not agree that it was necessary to provoke contraction in the affected muscles, the sinusoidal current produced no contraction yet cases so treated improved whether the reaction of degeneration were present or no

SECTION OF OPHTHALMOLOGY

Exhibition of Cases —Cases of the Ophthalmoscopic Appearances in [illegible] Family Idiocy —Superficial Linear Keratitis —Cataract in Experimental Thyroidectomy

A MEETING of this section was held on Feb 2nd, Mr PRIESTLEY SMITH the President being in the chair

The following cases were shown —

Mr J HERBERT FISHER Arterio venous Aneurysm

Moreover, the patient should be asked repeatedly if he has general itching or slight urticaria, or irritation in the eyes Until we find an animal suitable for experimentation, this therapy will only advance very slowly The experiences of the method already gained are, however, better than the results of a great many older methods of treatment, and this in itself may be regarded as an acquisition In this paper I have endeavoured to prove that it is possible to simplify the method of Noon and Freeman so far as to enable the practitioner to apply the vaccine in these cases without fear of obtaining less good results

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

A CASE OF FEBRIS COLOMBENSIS

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IT may be of interest to place on record a case of febris colombensis I have recently observed in Serbia. On this fever, which was first described by Castellani in Ceylon in 1905, there is very little literature, the only papers on the subject known to me, apart from Castellani's publications, being one by Fulle and one by Spaar This fever, as noted by Castellani, sometimes resembles typhoid or paratyphoid, at other times it is more like Malta fever with several relapses The onset is in most cases slow and gradual, but at times it may be quite abrupt, the general condition of the patient is usually rather severely affected, and a true typhoid state may develop, but very mild cases may also be met with No roseola or other rashes have been noted, and the spleen is seldom palpable, there may be constipation or diarrhœa. No case so far has ended fatally, but the general condition may be very severe As regards complications and sequelæ, cystitis has been noted and osteoperiostitis

The patient, an Austrian, had been prisoner in Serbia since December, 1914 There was nothing worth noting in his past medical history He never had been in the tropics At the end of June, 1915 while in Skoplje (Uskub) he began feeling tired and feverish and was seen several times by me, first as an out-patient at the American Clinique and afterwards at the Second Reserve Hospital. The fever was of a subcontinuous type, the temperature seldom exceeding 103° F, and it lasted for five weeks, terminating by lysis The general condition of the patient never was very severe. No roseola, no enlargement of the spleen no complication of any kind

The bacteriological examination of the case was carried out with the kind assistance of Mr D de Silva The blood was examined for agglutination for typhoid paratyphoid A and paratyphoid B and Malta fever four times—three times during the course of the fever and once two weeks after the fever was over, always with negative results, while it agglutinated B colombensis Ceylon strain (cultures kindly supplied by Professor Aldo Castellani) in dilutions of 1/40 1/80 and occasionally 1/160 No hæmocultures were carried out but the stools collected in a large sterile Petri dish were examined bacteriologically in the usual way by plating &c B typhosus and paratyphosus A and B were absent while 4 colonies out of 26 investigated turned out to be bacillus colombensis the others being coli and coli like bacilli

The strain isolated from this patient is identical to the Ceylon strain and corresponds in every particular to the description given by Castellani. It is a motile bacterium, Gram negative, does not liquefy either gelatin or serum On agar the growth may be typhoid like, or the germ may grow more abundantly than true typhoid The germ grows well in milk, rendering the medium acid at first, alkaline later, and often bleaching it, at times the medium may become permanently acid As regards sugar reactions, as stated by Castellani and Spaar there is no production of gas in saccharose, raffinose, adonite, inulin, inosite, amygdaline, or erythrite, while there is formation of gas in dulcite, mannite glucose, maltose, dextrin (very slight), arabinose sorbite, glycerine, isodulcite, galactose, levulose, and salicin

It is interesting to note the action on lactose I can completely confirm the previous observation made by Castellani and Spaar, that the same strain may at times produce a little gas in lactose and at other times none, while the colonies of the germ on MacConkey bilesalt lactose agar are always white, never red

The peculiar inconstant action of the germ on lactose renders its classification difficult When it does not ferment lactose, as is often the case when freshly isolated, its cultural characters are very similar to B paratyphosus B, when it produces gas in lactose it is more closely related to B coli The germ, however, as demonstrated by Castellani Fulle, and Spaar is never agglutinated by either paratyphoid B or A serum, nor by any of the many coli sera tried

There can, in my opinion, be no doubt that the case I have described is one of febris colombensis as Castellani's bacillus colombensis (1905) was isolated from the stools and the blood agglutinated strongly both the strains isolated from the patient and the original Ceylon strain, while it did not present any agglutination for the typhoid, paratyphoid A and B bacilli, and Malta fever micrococcus Moreover, the agglutination slowly and gradually decreased after the fever was over This case shows that febris colombensis is not limited to the tropics, but is found also in temperate climates and must be regarded as a cosmopolitan disease

Bibliography—Castellani Ceylon Medical Reports and Journal of the Ceylon Branch of the British Medical Association 1905 Journal of Tropical Medicine 1913, &c. Fulle Sperimentale 1914 Spaar Journal of the Ceylon Branch of the British Medical Association 1914 Journal of Tropical Medicine December 1915

CASE OF INTRACRANIAL HÆMORRHAGE WITHOUT SYMPTOMS OF COMPRESSION

By P W Lam, M B, Ch B Edin,
AND
Ed Law, M B, Ch B Edin,
RESIDENT SURGEONS DISTRICT HOSPITAL, WEST BROMWICH

IT is a matter of common knowledge that cases of head injury admitted to the casualty department of a general hospital often present difficulties in diagnosis, and the following case illustrates one of these difficulties

The patient, a man aged 32 whilst cycling down an incline on Jan 1st 1916 collided with a cart He was thrown off his bicycle and his head knocked against a post on the side of the road On admission at 9 15 A M an hour after the accident he was unconscious but could be partially aroused by strong stimuli The pulse was 76 per minute respirations 16 and temperature 99° F The pupils were equal in [illegible] dilated, and reacted sluggishly to light, the conjunctival reflex was present. The skin was cold and pale There was a wound on the right side of the scalp extending from before backwards for about 1 inch and situated over the right parietal eminence From this a small quantity of blood was oozing On probing, the wound was found to be quite superficial and no bare bone could be detected No other injuries were present except a bruise over the upper part of the left arm Two hours after admission he vomited a large quantity of coffee-coloured fluid and passed urine in bed During the next nine days the temperature ranged from 97° to 98°, pulse from 60 to 140, and respirations from 18 to 30 There was no further vomiting, but involuntary micturition was repeated several times a day and the bowels did not act except by enemata. He was restless during the first four days but this was never very marked The unconsciousness continued but he could always be roused, and at times he would utter a few incoherent words No spasms were ever noticed, nor were there any signs of paralysis though these were repeatedly looked for The pupils remained in the same state as on the day of admission The respiration was always easy, never stertorous On the morning of the tenth day the temperature rose to 101°, the pulse to 142 and the respirations to 32 He died at noon

At the necropsy we found the following Under the scalp wound and running at right angles to it was a very fine fissure in the right parietal bone beginning at a point on the temporal ridge midway between the anterior and the posterior borders of the bone, and running downwards and forwards, becoming wider as it did so This fissure was then continued into the anterior part of the squamous portion of the temporal bone, and into the greater wing of the sphenoid in the middle fossa of the skull The whole length of the fissure measured 4½ inches On opening the skull we found an extradural clot measuring 2¼ inches × 2 inches corresponding to the temporal lobe of the brain, but the brain itself showed no flattening at this part The membranes were uniformly congested The surface of the brain was also congested and œdematous but the interior showed no changes

With a history such as that presented by this case to make a diagnosis was difficult in the extreme, since we could detect no definite signs that compression was present

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WEST CORNWALL INFIRMARY, PENZANCE—At the 107th annual meeting of the friends of this charity, held on Jan 26th, it was stated that the late Mr T B Bolitho had bequeathed £1000 to the funds of the infirmary It was decided to use the money as a nucleus for raising a fund to provide a children's ward, which is much needed

PENSIONS FOR NURSES—In the matter of the charity hitherto known as The Institution for Nurses for Nervous and Mental Disorders of Women the Charity Commissioners have at the request of the original trustees promulgated a new scheme for its regulation and administration in substitution for the scheme of 1909-10 which is now entirely repealed. Under the new scheme the title of the charity is to be The Mrs Frances Sophia Caldwell Nurses Fund and the trustees are to be the corporate body called the Royal National Pension Fund for Nurses The operative clauses provide that after payment of expenses of management, etc the trustees shall out of the yearly income pay an annual pension of £16 13s 4d to each of nine persons whose names are specified in a schedule, [illegible] to this charge the income shall be applied in [illegible] pensions at such rates as the trustees may fix having regard to the needs and circumstances of the pensioners and [illegible] circumstances of the charity The [illegible] are to be [illegible] who have served [illegible] in connexion with cases of nervous and mental disorders of women and are in [illegible] circumstances [illegible]

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF SURGERY

The Use of Condensers in the Diagnosis, Prognosis, and Treatment of Nerve Lesions

A MEETING of this section was held on Feb 2nd, Mr J MURRAY being in the chair

Dr F HERNAMAN JOHNSON read a paper on the Use of Condensers in the Diagnosis, Prognosis, and Treatment of Nerve Lesions

Major C F BAILEY said that it should not be forgotten that the use of the condenser was only one of the methods which could be employed to estimate the degree of deviation of muscular contraction from the normal, it was however, the most accurate It was important to determine the smallest electric discharge which would just cause the muscle to react. The test should first be applied to the corresponding normal muscle and then, the conditions being unaltered, the affected muscle should be stimulated until the first visible contraction was obtained The value of the stimulus could then be read off from the apparatus He had been using a modification of the *Lewis Jones condenser* whereby the electric discharge rose by increases of 25 volts from zero to 225 volts, and known resistances could also be thrown in There were two arguable questions connected with the use of condensers (*a*) whether all the muscles of the body react in a way similar to those selected by Lewis Jones, and (*b*) whether the skin resistance is really constant Certain muscles of the foot did not contract to the Lewis Jones condensers of the lowest capacity, and those of the face although they contracted to such condensers, would probably begin to do so to condensers of still lower capacity He had devised his modification to overcome this difficulty By starting with 25 volts and introducing greater resistance examinations which would otherwise be impossible because of the pain were rendered trustworthy He agreed that the reaction of degeneration gave little information Sensory tests were also very important, and he considered that an estimation of the loss of epicritic sensibility was most valuable if properly carried out He thought that the records of many of the cases of rapid recovery of sensation after operation were largely attributable to faulty methods of testing He did not agree that a tetanising current should be used for treatment

Dr E P CUMBERBATCH said that the introduction of the condenser method marked a great advance because it measured the stimuli employed but he objected to the use of numerals in recording the results of the tests as unscientific. "Reaction of degeneration" was an incorrect term for it could be obtained in undegenerated muscle He had seen muscles which required for their contraction the largest condenser in the box and yet the patient had voluntary control over them He had found that when reaction of degeneration was present and yet voluntary power was retained the nerve was excitable to stimulation, and therefore recommended that the nerve trunks should also be tested He thought that this would provide a better indication as to diagnosis and prognosis than testing muscle contraction only Observations at operations were incomplete unless the conductivity of the nerve was tested at the same time as its lesion was inspected He thought that better results would attend treatment also if the ordinary constant current were used to stimulate the nerve and attention was not devoted solely to the muscle He did not agree that it was necessary to provoke contraction in the affected muscles, the sinusoidal current produced no contraction yet cases so treated improved whether the reaction of degeneration were present or not

SECTION OF OPHTHALMOLOGY

Exhibition of Cases—Cases of the Ophthalmoscopic Appearances in [illegible] Idiocy—Superficial Linear [illegible]—Cataract in Experimental Thyroidectomy

A MEETING of this section was held on Feb 2nd, Mr PRIESTLEY SMITH, the President, being in the chair

The following cases were shown:—

Mr J HERBERT FISHER Arterio venous Aneurysm

Mr Arnold Lawson Coloboma of the Upper Eyelid
Dr J Attlee Congenital Dermoid of the Conjunctiva
Mr G H Pooley Lymphoma of Orbits

A paper by the late Mr George Coats was read by Mr R Affleck Greeves, entitled "The Cause of the Ophthalmoscopic Appearances in Amaurotic Family Idiocy" The writer in this paper deals with a contribution by Dr F E Batten and Mr Stephen Mayou on Family Cerebral Degeneration with Macular Change, in which those authors state that there is a close relationship between these cases and the instances of amaurotic family idiocy, the only difference between them being that the macular region in amaurotic family idiocy shows a much more marked œdema of the internuclear layers, and therefore a white area around the macula associated with a hole or thinning of the retina at the fovea due to œdema, their conclusion being that œdema of the internuclear layers was present in both diseases, but much more markedly in amaurotic family idiocy In the present paper it was stated that for a histological study of the retina the material must be absolutely fresh, as post-mortem changes begin two hours after death, fixation must be perfect (Zenker's solution being the best), and the method of cutting must be suitable Mr Coats considered that in the retina, apart from the occurrence of œdema, the macular changes show marked differences in the two diseases, and these were enumerated He repudiated the view which had been ascribed to him that the ophthalmoscopic appearances in amaurotic family idiocy are due to coagulation necrosis Though the particular form of chromolysis vacuolisation, &c, which characterise family cerebral degeneration closely simulates that which is seen in amaurotic family idiocy the underlying cause may be different, and the race selectiveness of amaurotic family idiocy should cause hesitation in identifying it with a disease which is not race selective —Mr S Mayou, in discussing the paper, agreed that formalin, which was used in the case described by Dr Batten and himself, was not a good fixative, but in one of the cases reported he thought the appearances could be fairly relied upon, except in regard to œdema in the internuclear layers —Mr E Treacher Collins thought the paper might well have been entitled "Causes of Opacity of the Retina," as it dealt with the wider subject In the class of case investigated by Mr Coats he seemed to have established that the opacity of the retina was due to a change in the ganglion cells —Mr J H Parsons said he had cut sections from a case of amaurotic family idiocy, and there were large œdematous spaces similar to those in Dr Batten's and Mr Mayou's case and he did not think they could be explained merely as the result of bad fixation. A good fixative, like the Zenker, might cause an artefact appearance in the opposite direction to that alleged in this paper He regarded amaurotic family idiocy as one of the most sharply defined clinical entities known

Mr Holmes Spicer and Mr Affleck Greeves contributed a paper on Superficial Linear Keratitis The condition was one in which there were superficial ridges of epithelium raised above the level of the cornea mostly running in vertical lines, grey and tapering, and having along their course bulging node like appearances They had tapering ends and did not extend quite to the limbus They not uncommonly showed punctate staining but there was no iritis The tension of the eyeball was nearly always minus and during such times the vision was definitely impaired, though it recovered when the normal tension was re-established It differed from dendritic ulcer (which it appeared to simulate) especially in the reduced tension No measures which he had employed prevented recurrences A number of drawings and microphotographs illustrated the contribution —The paper was discussed by Mr J Cole Marshall, Mr J B Lawford, and Mr D L Davies

Mr Walter Edmunds read a paper on Cataract in Experimental Thyroidectomy He said he did not think the lens opacity was due to disease of the eye itself, in the dogs dealt with the pupil was active, and there was perception of light. He thought the cataract was due to the general nutritional changes following the removal of the thyroid gland, and the fits seemed to be due to that. Similar instances had been recorded in man The cataractous changes which he found were not of the lamellar or any special type. When the parathyroids were also removed, the animal quickly sickened and died the death being preceded by tremors —The paper was discussed by Mr Parsons and Mr Fisher, and Mr Edmunds replied

WEST LONDON MEDICO CHIRURGICAL SOCIETY

Exhibition of Specimens and Skiagrams

A pathological meeting of this society was held on Feb 4th, Dr Leonard Dobson, the President, being in the chair

The President showed a specimen and microscopic section of Sarcoma of the Brain situated in the posterior part of the left middle frontal convolution The first symptom in this case was an epileptic fit on Dec. 18th followed by amnesia, aphasia, right hemiplegia, and death on Jan 23rd The patient was a man aged 47

Dr J M Bernstein showed the following specimens 1 Syphilitic Liver from a male child aged 7 months 2 Large Aneurysm of Arch of Aorta 3 Hodgkin's Disease showing Lymphoma of Breast 4 Perforation of Œsophagus from fish bone, death from acute suppurative mediastinitis 5 Polycystic Kidney 6 Primary Sarcoma of Root of Lung, secondary growth in liver He also described a case of Acute Lymphatic Leukæmia, from which he showed a blood film

Dr Arthur Saunders showed 1 A kidney from a case of Acute Suppurative Nephritis affecting one kidney only in a child aged 1 year 2 With Mr H Tyrrell Gray a Parovarian Cyst from a child aged 2 years 3 With Dr Reginald Morton, a specimen and skiagram of a large Aortic Aneurysm.

Major W McAdam Eccles R A.M C (T F), showed 1 A microscopic section and skiagrams from a case of Mammary Tumour associated with a lesion of the tibia in a female aged 34 In this patient the head of the left fibula was found, on examination by Major McAdam Eccles, to be lying outside the external condyle of the femur, the shaft of the left tibia appeared to be displaced outwards and somewhat upwards, although the proximal epiphyseal part of the bone seemed to retain its normal relationship to the condyles of the femur Examination of the right knee revealed a somewhat similar condition but in a much earlier stage, the fibula being in its normal position but the tibia having distinct rarefaction A section of tissue removed from the breast showed typical atrophic scirrhus while that from the tibia gave no evidence of any neoplasm primary or secondary 2 Skiagrams of two wedge-shaped dorsal vertebræ from a male aged 28, no signs of any inflammatory mischief nor of any real "crushing"

Mr H S Souttar showed the following specimens 1 Elephantiasis of Vulva, huge mass excised, patient eight months pregnant, later, normal confinement The patient was aged 35 2 Complete Prostatic Tumour removed by suprapubic operation from a patient aged 70 3 Cystic Adenoma of Thyroid from a female aged 26 4 Scirrhous Carcinoma of Breast, the patient was aged 50 5 Carcinoma of Stomach, operation, partial gastrectomy and posterior gastro-jejunostomy, the patient was a male aged 65 6 Large Nævo-lipoma of Face removed by excision Mr Souttar said that the patient in this case a male aged 21, had those other congenital defects—viz (*a*) spina bifida occulta over sacrum, (*b*) gross scoliosis defective vertebra (first lumbar), (*c*) multiple nævo-lipomata on back, (*d*) aortic stenosis, (*e*) mitral regurgitation, (*f*) ? patent foramen ovale

Mr O L Addison described a case of Aneurysm of the Radial Artery at the back of the wrist in a female aged 73

Dr George Pernet showed (1) Cultures of Favus in various media from the case of a child whose mother had suffered from favus for 30 years, (2) cultures of Ringworm, and (3) cultures of Streptothrix to compare with megalosporon ringworm

Major J M Atkinson, R A M C (T F) showed several skiagrams of injuries to bones due to shell

Mr H Tyrrell Gray showed the following skiagrams (1) Congenital scoliosis half lumbar vertebra only, (2) congenital absence of half the eighth and eleventh dorsal vertebræ 13 ribs on one side and 12 ribs on the opposite side congenital scoliosis, (3) congenital scoliosis defective development of half the fifth dorsal vertebra, (4) spina bifida occulta fourth lumbar vertebra, (5) congenital club-hand, (6) unusual type of tuberculous hip disease, (7) scoliosis in a boy due to shortening of one leg of which the bones show a condition resembling fibro-cystic disease, and (8) tuberculous arthritis of ankle-joint.

Mr ARNOLD LAWSON *Coloboma of the Upper Eyelid.*
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Dr REGINALD MORTON showed the following skiagrams (1) Large aneurysm of arch of aorta, male aged 41, to illustrate radiographically Dr Bernstein's specimen, (2) branched calculus in the pelvis of the right kidney, female aged 37, under the care of Mr Souttar, (3) showing absorption of bodies of the fourth and fifth lumbar vertebræ following an attack of paratyphoid, for comparison with Major McAdam Eccles's skiagram showing wedge-shaped vertebræ, male aged 30, under the care of Dr Saunders, (4) wrist showing changes in bones and joint spaces due to sepsis, male aged 24, (5) osteo-arthritis of left hip male aged 43, under the care of Mr Tyrrell Gray, (6) rarefying osteitis of upper end of tibia and fibula, female aged 37, under the care of Mr Addison, (7) pathological dislocation of right hip from tuberculous disease male aged 10, under the care of Mr Addison, (8) skiagram showing early tuberculous invasion of lungs—striæ and mottling close in around the hilum, the periphery of the lungs clear The detail in the latter skiagram was extremely fine, and this exhibit gave rise to an interesting discussion, in which the PRESIDENT, Dr SAUNDERS, Mr ADDISON, Dr MORTON, and other members took part, on the value of radiography as a means of detecting pulmonary tuberculosis in its earliest stages, before physical signs make themselves apparent

The PRESIDENT, Major MCADAM ECCLES Mr ADDISON, Mr TYRRELL GRAY, Dr SAUNDERS Dr H PERCY POTTER Mr RICKARD W LLOYD, Dr BERNSTEIN Dr MORTON and others discussed the various specimens and skiagrams shown at the meeting

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Mr **ARNOLD LAWSON** Coloboma of the Upper Eyelid
Dr J **ATTLEE** Congenital Dermoid of the Conjunctiva
Mr G H **POOLEY** Lymphoma of Orbits

A paper by the late Mr **GEORGE COATS** was read by Mr R **AFFLECK GREEVES**, entitled "The Cause of the Ophthalmoscopic Appearances in Amaurotic Family Idiocy" The writer in this paper deals with [a contribution by Dr F E Batten and Mr Stephen Mayou on Family Cerebral Degeneration with Macular Change, in which those authors state that there is a close relationship between these cases and the instances of amaurotic family idiocy, the only difference between them being that the macular region in amaurotic family idiocy shows a much more marked œdema of the internuclear layers, and therefore a white area around the macula associated with a hole or thinning of the retina at the fovea due to œdema, their conclusion being that œdema of the internuclear layers was present in both diseases, but much more markedly in amaurotic family idiocy In the present paper it was stated that for a histological study of the retina the material must be absolutely fresh, as post-mortem changes begin two hours after death, fixation must be perfect (Zenker's solution being the best), and the method of cutting must be suitable Mr Coats considered that in the retina, apart from the occurrence of œdema, the macular changes show marked differences in the two diseases, and these were enumerated. He repudiated the view which had been ascribed to him that the ophthalmoscopic appearances in amaurotic family idiocy are due to coagulation necrosis Though the particular form of chromolysis, vacuolisation, &c, which characterise family cerebral degeneration closely simulates that which is seen in amaurotic family idiocy the underlying cause may be different, and the race selectiveness of amaurotic family idiocy should cause hesitation in identifying it with a disease which is not race selective —Mr S **MAYOU**, in discussing the paper, agreed that formalin, which was used in the case described by Dr Batten and himself, was not a good fixative, but in one of the cases reported he thought the appearances could be fairly relied upon, except in regard to œdema in the internuclear layers —Mr E **TREACHER COLLINS** thought the paper might well have been entitled "Causes of Opacity of the Retina," as it dealt with the wider subject In the class of case investigated by Mr Coats he seemed to have established that the opacity of the retina was due to a change in the ganglion cells —Mr J H **PARSONS** said he had cut sections from a case of amaurotic family idiocy, and there were large œdematous spaces similar to those in Dr Batten's and Mr Mayou's case, and he did not think they could be explained merely as the result of bad fixation A good fixative, like the Zenker, might cause an artefact appearance in the opposite direction to that alleged in this paper He regarded amaurotic family idiocy as one of the most sharply defined clinical entities known

Mr **HOLMES SPICER** and Mr **AFFLECK GREEVES** contributed a paper on Superficial Linear Keratitis The condition was one in which there were superficial ridges of epithelium raised above the level of the cornea mostly running in vertical lines, grey and tapering and having along their course bulging node like appearances They had tapering ends and did not extend quite to the limbus They not uncommonly showed punctate staining, but there was no iritis The tension of the eyeball was nearly always minus and during such times the vision was definitely impaired, though it recovered when the normal tension was re-established It differed from dendritic ulcer (which it appeared to simulate) especially in the reduced tension. No measures which he had employed prevented recurrences A number of drawings and microphotographs illustrated the contribution —The paper was discussed by Mr J **COLE MARSHALL**, Mr J B **LAWFORD**, and Mr D L **DAVIES**

Mr **WALTER EDMUNDS** read a paper on Cataract in Experimental Thyroidectomy He said he did not think the lens opacity was due to disease of the eye itself, in the dogs dealt with the pupil was active, and there was perception of light He thought the cataract was due to the general nutritional changes following the removal of the thyroid gland, and the fits seemed to be due to that Similar instances had been recorded in man The cataractous changes which he found were not of the lamellar or any special type When the parathyroids were also removed, the animal quickly sickened and died the death being preceded by tremors —The paper was discussed by Mr **PARSONS** and Mr **FISHER**, and Mr **EDMUNDS** replied

WEST LONDON MEDICO-CHIRURGICAL SOCIETY

Exhibition of Specimens and Skiagrams

A **PATHOLOGICAL** meeting of this society was held on Feb 4th, Dr **LEONARD DOBSON**, the President, being in the chair

The **PRESIDENT** showed a specimen and microscopic section of Sarcoma of the Brain situated in the posterior part of the left middle frontal convolution The first symptom in this case was an epileptic fit on Dec. 18th, followed by amnesia, aphasia, right hemiplegia, and death on Jan 23rd The patient was a man aged 47

Dr J M **BERNSTEIN** showed the following specimens 1 Syphilitic Liver from a male child aged 7 months 2 Large Aneurysm of Arch of Aorta 3 Hodgkin's Disease showing Lymphoma of Breast 4 Perforation of Œsophagus from fish bone, death from acute suppurative mediastinitis 5 Polycystic Kidney 6 Primary Sarcoma of Root of Lung, secondary growth in liver He also described a case of Acute Lymphatic Leukæmia, from which he showed a blood film

Dr **ARTHUR SAUNDERS** showed 1 A kidney from a case of Acute Suppurative Nephritis affecting one kidney only in a child aged 1 year 2. With Mr H Tyrrell Gray, a Parovarian Cyst from a child aged 2 years 3 With Dr Reginald Morton, a specimen and skiagram of a large Aortic Aneurysm

Major W **McADAM ECCLES**, R A.M C (T F), showed 1. A microscopic section and skiagrams from a case of Mammary Tumour associated with a lesion of the tibia in a female aged 34 In this patient the head of the left fibula was found, on examination by Major McAdam Eccles, to be lying outside the external condyle of the femur, the shaft of the left tibia appeared to be displaced outwards and somewhat upwards, although the proximal epiphyseal part of the bone seemed to retain its normal relationship to the condyles of the femur Examination of the right knee revealed a somewhat similar condition but in a much earlier stage, the fibula being in its normal position but the tibia having distinct rarefaction A section of tissue removed from the breast showed typical atrophic scirrhus, while that from the tibia gave no evidence of any neoplasm, primary or secondary 2 Skiagrams of two wedge shaped dorsal vertebræ from a male aged 28, no signs of any inflammatory mischief nor of any real "crushing"

Mr H S **SOUTTAR** showed the following specimens 1 Elephantiasis of Vulva, huge mass excised, patient eight months pregnant, later, normal confinement The patient was aged 35 2 Complete Prostatic Tumour removed by suprapubic operation from a patient aged 70 3 Cystic Adenoma of Thyroid from a female aged 26 4 Scirrhous Carcinoma of Breast, the patient was aged 50 5 Carcinoma of Stomach, operation partial gastrectomy and posterior gastro-jejunostomy, the patient was a male aged 65 6 Large Nævo-lipoma of Face removed by excision Mr Souttar said that the patient in this case a male aged 21, had those other congenital defects—viz, (*a*) spina bifida occulta over sacrum, (*b*) gross scoliosis defective vertebra (first lumbar), (*c*) multiple nævo-lipomata on back, (*d*) aortic stenosis, (*e*) mitral regurgitation, (*f*) ? patent foramen ovale

Mr O L **ADDISON** described a case of Aneurysm of the Radial Artery at the back of the wrist in a female aged 73

Dr **GEORGE PERNET** showed (1) Cultures of Favus in various media from the case of a child whose mother had suffered from favus for 30 years, (2) cultures of Ringworm and (3) cultures of Streptothrix to compare with megalosporon ringworm

Major J M **ATKINSON**, R A M C (T F) showed several skiagrams of injuries to bones due to shell

Mr H **TYRRELL GRAY** showed the following skiagrams (1) Congenital scoliosis half lumbar vertebra only, (2) congenital absence of half the eighth and eleventh dorsal vertebræ, 13 ribs on one side and 12 ribs on the opposite side congenital scoliosis, (3) congenital scoliosis defective development of half the fifth dorsal vertebra, (4) spina bifida occulta fourth lumbar vertebra, (5) congenital cleft hand, (6) unusual type of tuberculous hip disease, (7) scoliosis in a boy due to shortening of one leg, of which the bones show a condition resembling fibro-cystic disease, and (8) tuberculous arthritis of ankle-joint

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Reviews and Notices of Books.

Post mortem Methods (Cambridge Public Health Series)

By J MARTIN BEATTIE, M A., M D Edin, Professor of Bacteriology, University of Liverpool, formerly Joseph Hunter Professor of Pathology, University of Sheffield. With three figures in the text and eight plates Cambridge University Press 1915 Pp 231 Price 10s 6d

THE volumes of the Cambridge Public Health Series which have already appeared have been characterised by accuracy of statement and clarity of expression, the most recent addition, entitled "Post mortem Methods," exhibits these virtues in an equal degree Upon general grounds it might be asserted that the conduct and interpretation of necropsies had already been completely exhausted by numerous excellent volumes dealing with this special branch of medicine, and that no niche on our bookshelf could be usefully filled by the present one Such, however, is not the case, and even a cursory glance through its pages shows that it goes a long way towards filling the gap the existence of which we have on several occasions indicated in these columns Up to the present time there has been no post mortem manual written by a pathologist who was at the same time a skilled and practical bacteriologist Consequently the importance of the application of bacteriological methods as a routine measure to every necropsy has hitherto never been sufficiently emphasised By his explicit instructions and constant references, Professor Beattie has done much to prevent the junior who follows his directions from seeking a haven of refuge in the diagnosis "status lymphaticus" before he has made a really exhaustive examination and drawn blank all the bacteriological covers

The book comprises four main parts In the first (Chapters I -III) we are rather surprised to see that Professor Beattie does not insist on the provision of a refrigerating chamber in connexion with the post mortem room of the hospital pathologist, particularly in view of the fact that bacteriological investigations play so important a part in post mortem work His reasons for preferring to work without gloves are sound, but we note that the operator, whose hands are reproduced in the photograph, having discarded gloves, sets a bad example by retaining his ring The methods recommended for opening the body and removing the organs are clearly those employed by the author himself, they are for the most part simple, and are set out with sufficiency of detail which renders them easily followed

The second section (Chapters IV -XI) deals with the macroscopical examination of the organs, and in this connexion it may be noted that weights and lengths are given in metric measurements, usually accompanied by their English equivalents Under each viscus the attention of the student is directed to the appearances of the naked eye lesions that may be present, and this section is particularly fruitful in those hints, suggestions, and explanations we have every reason to expect from a practical teacher of Professor Beattie's extensive experience

The next section deals with medico legal methods as applied chiefly to cases of suspected poisoning—no mention being made of sexual crimes or criminal abortions—and bacteriological methods to be employed when an experimental animal in the laboratory furnishes the cadaver In this part Cobbett and Graham Smith's instructions for examining birds are quoted *in extenso* Then follows a series of notes on the points to be elucidated in a number of specified conditions and diseases including the microscopical preparations to be made and the culture media to be inoculated when dealing with bacterial infections

The last section (an appendix) gives instructions for the preservation of the natural colours of organs intended for museum preparations by various methods, preference being expressed for those of Jones or Pick, Frost solution being used for the final mounting and the sealing up of museum jars The directions for the preparation of a few bacteriological culture media, which occupy the final pages, are so few and so scrappy that their omission would have improved rather than detracted from the value of the book as a whole

A full index completes a volume upon the production of which we offer the author our congratulations

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LIBRARY TABLE

National Insurance Acts, Handbook for the Use of Approved Societies English edition London Wyman and Sons, Limited 1915 Pp 324 Price 1s —The Insurance Commissioners have issued in the form of a "Handbook for Approved Societies" a volume containing a considerable amount of information and advice, the object being to supply to the officers of the societies an official book of reference, information on procedure, and of guidance in applying the provisions of the Insurance Acts and of the regulations made under them The present issue is described as provisional only, and as revised to August, 1915 It applies only to England A more complete handbook is promised after the war, when our social organisation returns to normal courses In its tentative form the handbook contains more than 300 pages, and although the greater part of it deals with financial and administrative matters of intrinsic interest only to the societies for which it is compiled, medical men upon the panels, and particularly those entering upon panel work, will find a good deal of matter for their consideration in the paragraphs dealing with certification and sickness benefit

In the issuing of medical certificates many points of possible friction have made themselves felt, and the handbook appears to deal with these fairly and clearly, it should certainly assist the societies to carry out efficiently their duties in connexion with the distribution of sickness benefit. The fact that these duties are imposed upon the societies by the legislature and the necessity for every society in the interest of its funds and of its members to exercise care in supervising claims will be found to explain much that is contained in the handbook on the subject of certification In dealing with the subject of sick visiting it is pointed out, for example, in emphatic terms that the responsibility for determining whether a member is entitled to benefit rests not with the doctor who gives a medical certificate but with the society That is to say, that although the medical certificate constitutes a very important part of the evidence upon which the society has to base its decision it is not the only evidence that it may take into account in determining whether benefit is payable It will be observed however, that the societies are expressly warned that their visitors cannot be expected, and should not be allowed, to act as medical advisers, and that the proper means of obtaining further evidence on matters which require any medical knowledge is to refer the case to the doctor in attendance or to a medical referee

The paragraph relating to medical referees explains that, where a doubt exists as to whether sickness benefit should be paid after the medical certificates and the report of the sick visitor have been considered, the doctor in attendance may be able to help by supplying further particulars or otherwise but that in some cases of uncertainty as to a medical point the proper course will be to refer the matter to a medical referee, first informing the doctor in attendance and taking care that he is aware of the time and place of any proposed examination It is mentioned that power is given to the societies to require a member claiming benefit to submit himself to examination by a medical man appointed by the society and at the society's expense, and also that where in consequence of expenditure upon medical referees a deficiency occurs in its administration account, a society is allowed to carry a further limited sum to that account beyond the maximum amount ordinarily allowed by regulation

Other paragraphs to which attention may be drawn with regard to certification are those which explain the procedure with regard to certificates given by medical men not upon the panels who are in attendance upon insured persons The distinction between this form of practice, where the consent of the Insurance Committee has been obtained, and where it has not, is made clear, and it will be seen that from the point of view of the society, responsible as it is for the distribution of sickness benefit, the distinction is a necessary one In any case, whether a medical practitioner acquiesces or not in the course taken by the officials of an Approved Society with regard to a patient under his care, he will be better able to form an opinion on the subject by knowing how far the action of the society is justified by official advice and authority Therefore we recommend to all whom it may concern the purchase of this cheap handbook

War and Civilisation an Open Letter to a Swedish Professor By J M ROBERTSON, M.P London George Allen and Unwin, Limited Pp 160 Price 2s 6d net —In a series of trenchant chapters Mr Robertson gives a reply to a Swedish professor of economic and social science who undertook to set forth the real "rights and wrongs" of the present war Dr Steffen is perhaps hardly a worthy antagonist, inasmuch as he justifies his vaunted ten years' acquaintance with English habits of thought by isolated extracts from newspapers instead of by responsible pronouncements of statesmen, and finds the typical Englishman in some of Mr Galsworthy's most unrighteous and unlovable characterisations. Hence Mr Robertson has no serious difficulty in demolishing the superstructure built on this crumbling foundation Mr Robertson is himself one of those who "have seen in war the great negation of human progress, the destroyer of a hundred civilisations, the final failure of reason to regulate international life,' and he finds the German people deficient in that most essential thing, the knowledge of the way of working of the souls of nations and of free men His book will be read with pleasure for its keenness and fairness of thought and expression

JOURNALS

Quarterly Journal of Experimental Physiology Edited by E A. SCHÄFER, W D HALLIBURTON, C S SHERRINGTON, E H STARLING, and A. D WALLER. Vol IX, No 3 London Charles Griffin and Co, Limited 1915 Pp 199–279 Price 7s 6d —On the Mode of Origination of Labyrinthine and Cervical Tonic Reflexes and on their Part in the Reflex Reactions of the Decerebrate Preparation, by J S Breitoff This elaborate research was carried out in the Imperial University of Petrograd The author's conclusions alone and summary of his work extend to over three pages The experiments were made on decerebrate cats Antagonistic muscles—e.g, vasto-crureus and semitendinosus—were isolated and their actions simultaneously recorded The view is generally held that certain labyrinth tonic reflexes in certain positions of the head in space are produced directly under the continuous excitement of the labyrinthine receptors The author made the observation on antagonistic muscles that a weak peripheral stimulation evokes in them a tonic reflex in harmony with the posture then obtaining in the head The author's results, which are set out at length, do not lend themselves to a short summary, and one must refer those interested to the communication itself —On the Accumulation of Gas in the Tissues of the Frog as a Result of Prolonged Submersion in Water, by A. T Cameron and T I Brownlee The authors find that 1. Specimens of Rana pipiens immersed in Winnipeg tap-water during late winter and spring will live on the average 16 days The extreme periods observed were three and 52 days 2 The frogs remain perfectly normal for some time, but at a variable period before death ensues—usually several days—they commence to swell. The swelling in all cases is due to the absorption of water, and in *most* cases this is accompanied by retention of absorbed nitrogen, resulting in a degree of buoyancy which tends to keep the frogs at the surface of the water The authors discuss the probable causes of these phenomena —The Upper Limit of Temperature Compatible with Life in the Frog, by A T Cameron and T I Brownlee The authors had previously determined the lower limits of temperature compatible with life in the frog These were found to be $-1\ 25° \pm 0\ 15°$ C for R pipiens and for R. clamitans and R sphenocephala two to three tenths of a degree higher The minimal temperature was maintained for one hour Three series of experiments were made 1 On the intact animal immersed in water 2 On the intact animal in air saturated with water vapour and kept at a constant temperature 3 On exsected heart, muscle, and nerve, chiefly in late winter and spring specimens of R pipiens In the air experiments the highest temperature at which R. pipiens can maintain life indefinitely is about 18° C, while a temperature a degree or two higher proves fatal in a few days The cause of *somatic* death cannot be stated The heart was found functioning in numerous cases where somatic death has occurred The experiments in water indicate a similar limiting temperature The fatal effects are more rapid The experiments on exsected muscle show the important relationship between temperature and time The authors are unable to state the cause of death of muscle at moderate temperatures (25°–35° C) —The Proprioceptive Reflex of a Flexor Muscle, by Chuai Asayama Decerebrate cats were used It was found that (1) quick stretching of tibialis anticus, the chief flexor of the ankle-joint, by a sharp pull on its tendon elicits a reflex contraction of the muscle, it can also be obtained in the intact animal under narcosis, but is more marked in the decerebrate preparation, (2) the reaction is a proprioceptive reflex the only afferent nerve required being that belonging to the muscle itself, (3) the minimal amount of stretching required to evoke the reaction is very small, (4) the rate of stretching is important—a slow stretching, however ample, does not evoke the reflex, (5) the latent period is shorter than that for reflexes evoked from the muscle by other afferent channels, (6) when the reflex response of the muscle has been tired out for the ordinary "flexion reflex,' this proprioceptive stretch reflex persists unaffected by that fatigue, (7) strychnine increases the reflex

CLINICAL REPORT ON THE APPLICATIONS OF EUSOL

REPORT TO THE MEDICAL RESEARCH COMMITTEE

THE following concludes the Report to the Medical Research Committee, the first part of which appeared in our issue of last week The Report is signed on behalf of the Edinburgh Committee by the chairman Major James Hodsdon, President of the Royal College of Surgeons of Edinburgh

1 RECENT ACCIDENTAL WOUNDS

Cases tabulated from the surgical out patient department, Royal Infirmary, show that 86 per cent of recent wounds remained aseptic This result was obtained by means of free application of eusol before dressing A dressing of gauze soaked in eusol was applied over the wound after stitching and in a few cases this was covered with jaconet As a rule, however, the dry dressing was sufficient to keep the wound aseptic It has been noted that in the treatment of small wounds where there is every probability of sepsis, it is a good plan to apply a eusol soak for the first 24 hours—i e, before stitching, and thereafter a dry dressing This renders drainage unnecessary Of the cases that became septic (10 per cent) this was, as a rule, due to the fact that the patient did not return when directed or interfered with the dressing One or two of the cases became slightly septic during treatment This occurred, however, before the value of preliminary treatment in certain cases with soaks had been realised

Mr Jardine and Lieutenant Cameron's Case

TABLE A, CASE 47 —Case of street accident The patient had been knocked down by a tramcar and the street dirt had been ground into the interior of a scalp wound 4½ inches long The tissues were quite black and it was impossible to remove the dirt by sponging The gross dirt was cut away and the wound and surrounding parts were thoroughly sponged with eusol, the wound was then packed with gauze impregnated with eusol and a eusol soak was applied over the surface The wound was not stitched as it was so dirty Twenty four hours later when the packing was removed the wound was clean enough for partial stitching The slight discharge of pus entirely ceased in 5 days, and 9 days later patient was discharged cured.

Captain Stuart's Case

TABLE B, CASE 1 —Motor car accident, overturning on hard country road Large antero-posterior scalp wound from anterior margin of hair almost to external occipital protuberance, much undermining of flaps, extending on one side to base of mastoid part of pericranium being torn away, with exposure of bone There was a second scalp wound about 4 inches long on the other side of the scalp, also much undermined There was much infiltration of the deep surface of the scalp flaps and of the pericranium with road dust Wounds were thoroughly washed out with eusol and dirty tags were cut away, but it was impossible to remove the dirt completely Gauze swabs soaked in eusol were laid under the scalp flaps and left there while the scalp was being shaved and painted with iodine, no iodine was put on the wound edges nor into the wound The smaller wound was closed without drainage, the larger one was completely closed but a small tube was introduced into the cavity through a stab opening above the ear Both wounds healed by first intention without a sign of sepsis

TABLE B, CASE 2 —Same accident as B 1 Antero-posterior wound of scalp beginning close above the right eye, passing through the eyebrow, up the forehead and backwards to rather beyond the level of the external occipital protuberance The lateral flap of the scalp had been raised, as in the previous case down to the mastoid There was another long wound on the left side of the scalp with undermined edges, and a small wound farther back Pericranium was exposed and parts of it torn away There was not much road dirt in the wounds The case was dealt with in precisely the same way as B, 1 All the wounds were stitched up completely, but small pieces of tubing were introduced through stab openings into the large wound All healed by first intention with the exception of a small circumscribed area in front of the ear, a small abscess formed and was incised

Captain Stiles's Case

TABLE A, CASE 9 *Septic burn of thorax* —An extensive superficial burn of the thorax of 2 weeks duration was dressed twice daily with eusol On admission the ulcer was dirty, covered with large greyish yellow sloughs, and showed no sign of healing Within 5 days the sloughs had entirely separated, leaving a healthy granulating surface dotted here and there with islands of epithelium The granulations after another 2 days became so vascular that the eusol dressings were stopped and boracic substituted The child was discharged 7 days after admission and treated as an out patient. There is no doubt that the eusol cleaned up and stimulated the burn with greater rapidity than any other antiseptic used here (Royal Hospital for Sick Children Edinburgh)

Mr J M Graham's Cases

TABLE A, CASE 94 *Partial avulsion of the scalp treated by eusol* —The patient a boy aged 4 was knocked over by a motor car on Nov 29th, 1915 He was dragged for a considerable distance, and was brought into hospital unconscious It was then found that the scalp was cut to the bone transversely from ear to ear and the posterior portion was completely separated from the cranium Much dirt was ground into the edges of the wound into the under surface of the flap, and also into the surface of the bones of the skull which were exposed Three hours after the injury the patient had recovered consciousness and under a general anæsthetic the scalp and exposed parts were cleansed with eusol Portions of dirt were removed with forceps and by clipping the tissues with scissors The parts were sponged with gauze soaked in eusol, and the latter was freely used to wash out the recesses of the wound After thorough cleansing the wound was completely stitched up after the insertion of two small drainage-tubes at dependent points The wound healed by first intention

TABLE A, CASE 95 *Severe laceration of right arm requiring amputation* —The patient a boy aged 15 fell off a railway engine a wheel passing over his right arm He was seen in hospital four hours after his injury, a tourniquet which was applied at the time of the accident still being in position The skin muscles and other tissues about the elbow were much torn, and the raw surfaces were ingrained with dirt, the lower third of the humerus was comminuted and the elbow joint dislocated The skin was completely stripped off the muscles as far as the shoulder joint An anæsthetic was administered and a circular amputation performed through the middle of the upper arm, the skin and the wound having first been thoroughly washed with swabs soaked in eusol The stump healed by first intention

TABLE A, CASE 96 —The patient was a man aged 60 Both hands were crushed by the wheels of a light engine On admission he was very collapsed and was suffering from severe shock The left hand was practically reduced to pulp and was only connected to the arm by a confused mass of torn tendons The right hand was severely damaged and the thumb was missing All the fingers were crushed and metacarpal bones broken, except that of the little finger Part of the skin of the palm was intact The following treatment was carried out four hours after the accident Right hand Careful cleansing with eusol, damaged parts removed, tendons stitched over the carpus and flap sutured in position The base of the thumb and entire little finger were saved Left hand Amputation was necessary above the wrist The parts were thoroughly irrigated with eusol The raw surfaces were black with dirt Saline enemata were administered After progress The right hand healed by first intention with the exception of a little necrosis at the line of suture In the left hand a considerable slough formed at the apex of the dorsal flap owing to lack of vitality in the skin This was associated with slight sepsis which disappeared with removal of the slough.

TABLE A, CASE 97 *Compound comminuted fracture of the elbow region* —The patient was a man aged 69, who was admitted 1¾ hours after being knocked down by a passing goods trains, four wagons passing over his elbow On *admission there was considerable shock, subnormal temperature* (95° F) One large wound, 3 in long and 2 in broad was situated in front of and above the head of the radius There were several smaller wounds and much general bruising of the arm The raw surface was ingrained with dirt There was a compound, much comminuted fracture of the lower end of the humerus As the radial pulse was good *and there was no evidence of destruction of nerves,* it was decided to try to save the arm The wound was thoroughly irrigated with eusol and packed with swabs wrung out of eusol The arm was laid on a pillow with the intention of securing ankylosis The radiogram showed a comminuted fracture of all the bones *entering into the elbow joint* After progress A large amount of muscle and some skin *sloughed during the first week* A slight amount of suppuration was present and numerous fragments of bone were removed The patient is still under treatment having just had a large sequestrum removed On the whole the result has been very satisfactory, as the patient has now considerable power of *movement at the elbow joint Considering* the severe nature of the injury, it was doubtful at the time *whether the arm could* be saved at all

2 WOUNDS ALREADY SEPTIC

Where *septic* processes are already present in the wound the treatment has usually been carried out by means of syringing and soaks or baths The aim is in the first *place to* eliminate sepsis If it be necessary for this purpose to apply eusol every four hours a drainage tube should be inserted and so arranged *that* it can be used as a channel for irrigating the wound with a minimum disturbance *of* the dressings In a septic cavity the antiseptic, warmed to body temperature, should be brought into contact with all the recesses and applied as freely as *possible to* the whole of the infected area Hypochlorous acid forms a compound with the albuminous substances in the exudate and is thereby decomposed, but the compound is itself an antiseptic To secure the elimination of sepsis it is important, therefore, to flush the cavity freely

The eusol brings about separation of the sloughs and formation of a covering of granulation tissue over the raw surface A *minimal* amount of discharge remains consisting of serous fluid, and this can be absorbed by a loose packing of gauze soaked in eusol, *the wound is thereby kept sufficiently* dry while healing proceeds Where a tube is combined with the gauze the tube should be removed once and the gauze *at* least twice in 24 hours in the earlier stages of the treatment

It has been found beneficial in some cases to change the treatment after granulations have formed Eusol may be alternated with another form *of* dressing, or it may be discontinued when the sepsis is under control Any tendency to exuberant growth of granulations and delay in healing can be counteracted in various ways indicated in the notes on the cases

While the cases recorded are sufficient to indicate the general principles involved in the treatment of wounds by eusol, further experience is required to determine the methods appropriate to wounds of a special or unusual character

Major Hodsdon and Mr Wood's Cases

TABLE B CASE 25 —A sailor had both legs injured by shell fire and amputation of the right was performed When the patient reached Edinburgh Royal Infirmary the flaps covering the stump had become gangrenous and sloughing, there was a foul discharge Washing and dry dressing with eusol for 13 days cleaned up the surface and skin grafting was successfully carried out

In the following four cases the patients were wounded on Sept 25th and admitted to the Royal Infirmary on *Oct 5th*

TABLE B, CASE 26 —A very severe case of compound fracture of the arm, with splintering of the lower third of *the humerus and upper third of the radius* and *ulna* Copious purulent discharge After the wound had been opened up to allow free drainage and application of eusol, the arm healed rapidly and the patient's general condition improved markedly The discharge had practically ceased in 19 days

TABLE B, CASE 27 —This was a case of compound fracture of both bones of the forearm. There were two large gaping wounds with a copious offensive discharge The lower part *of the ulna was completely shattered The wound here was* treated by syringing and wet dressing once daily In 5 days the wound was much cleaner, and in 4 weeks both wounds were in the condition of a healthy sore The wound cleaned up remarkably well

TABLE B CASE 28 —This was a case of bullet wound in the palm of the right hand It was very dirty and discharging pus freely, the hand was swollen and inflamed It was treated by syringing and wet dressing once daily, and in 9 days the wound was almost clean Eusol cleaned up *this case and reduced the amount of discharge* very quickly Numerous splinters of shrapnel had to be removed Apart from this the wound was completely healed in a fortnight

TABLE B, *CASE 29 —This was a case of compound fracture* of left femur The wound through the thigh was very septic and *foul smelling* A large cavity was present in connexion with the exit wound The wound was syringed and wet dressed twice daily There was distinct improvement in 6 days Nine days after this a large sequestrum was removed, and 13 days later a piece of shrapnel was removed and another piece 5 days later The wound healed up rapidly and the bones became quite firm

Major Wallace and Dr Bennet Clark's Cases

TABLE B *CASE 48 —This* was a case of shrapnel wound of the upper arm There was a sinus about 2 inches long, which was not healing It was 17 days old The sinus was treated for 14 days with eusol *soaks* every 4 hours At the end of this time treatment was changed to syringing and dry dressing twice daily Under the latter treatment it healed in 6 days This case exemplifies the fact that the mode of application of eusol is highly important, and that it must be directly applied to the infected surface

TABLE B CASE 52 —This was a case of large superficial lacerated wound of the forearm covered with sloughs, discharging profusely The pus was thick and foul smelling It was treated with *eusol* soaks, 4-hourly, and was sufficiently clean for skin grafting in 8 days, it was completely healed a fortnight later This was considered a very successful case

TABLE B, CASE 43 —This was a case of superficial shrapnel wound of 48 days' standing, it was situated in the shoulder and was very foul Eusol soaks applied every four hours cleaned the wound and it was healing rapidly after 10 days

Dr R W Johnston's Case

TABLE B CASE 57 —This was a case of compound fracture of the femur There had been six operations during a period of 8 months At the time when eusol treatment was commenced there were two septic sinuses each 4 inches deep leading down to the femur, and it was suspected at first that dead bone was present The sinuses were irrigated with eusol twice daily and lightly packed with worsted soaked in eusol The sinuses healed in 6 weeks The record continues "In view of the long history of sepsis this is a remarkably satisfactory result Patient was discharged for light duty"

Captain J W Stuart and Dr Andrew Rutherford's Case

TABLE B CASE 40 —This was a case of shrapnel wound of the foot. Amputation through the thigh was done because of rapidly spreading gangrene When the patient reached the Deaconess Hospital the stitches had burst, the flaps having given way and receded for a considerable distance, leaving the stump of the bone exposed The surface of the flaps was bathed in pus and emitted a fœtid odour It was treated with soaks twice daily and eusol was poured into the dressing every 4 hours by a tube which had been inserted for the purpose The surface of the wound became healthy and the end of the bone became covered with healthy granulations It was originally intended to remove some of the bone and make new flaps, but this was found unnecessary

Note by Lieutenant Colonel Caird

"Military cases Gunshot and shrapnel wounds Fifteen cases, admitted 7 to 10 days after receipt of injury, all septic and suppurating progressed in a satisfactory manner None had rise of pulse or temperature and all healed well, although three were very slow One case proved fatal where an operation to remove a small sequestrum from the tibia was followed by an acute septicæmia and endocarditis which carried off the patient on the eighteenth day" The post-mortem examination showed chronic and acute endocarditis of the aortic valve Septic thrombosis of the femoral vein, and infarction of the spleen

"One case, a disarticulation at the knee joint with retracted flaps and protruding extremity of femur, was admitted 17 days after operation The wound was sloughy, temperature 102°, pulse 120 Eusol dressing applied August 10th Temperature normal, wound granulating and pulse normal August 20th Healing thereafter promoted by change of dressing and epithelial grafting"

Note by Captain Stiles

"I may say that I have used eusol in many other cases besides those referred to in the tables The conclusions I have come to are that eusol is the most efficient antiseptic we possess in the treatment of the lacerated and contused wounds and compound fractures such as are met with in military practice It brings about the rapid separation of the sloughs and healthy granulations form more rapidly than under the use of any other antiseptic, its continued use causes an excessive growth of very vascular granulations so that bleeding from them is more severe than usual During the later stages of the treatment, therefore it is advisable to substitute either hypertonic salt solution or boracic for the eusol"

Captain A A Scott Skirving

Writes that he has employed eusol in several hundred cases in Craigleith and Bangour Military Hospitals and in civil practice His experience has been such as to lead him to order it as a routine treatment in every case where an open wound existed, and the results obtained have justified its use

Note by Captain Beesly, Surgeon Specialist, the Military Hospital, Edinburgh

"The only cases in which there has been a suitable opportunity for testing thoroughly the value of eusol in the Military Hospital Edinburgh, have been those of chronic localised sepsis of bones usually associated with cavities and sequestra Such cases have been plentiful, and the eight months which have elapsed since the treatment described below was first begun have allowed time for a definite opinion to be formed regarding the advantages possessed by eusol

Many of the patients under consideration had had four or five previous operations, and, as far as could be made out the recurrences were due to healing of the superficial soft structures before the underlying bone had healed In view of this the following method was adopted The area dealt with was widely opened up the sequestra removed and the cavity or cavities bevelled away as flat as the security to the shaft of the bone permitted Thereafter the area was kept wide open and the cavity down to the bone, lined with a sheet of perforated green protective, was packed with iodoform gauze to keep it fresh and to control the oozing This dressing was not changed for three days

This primary iodoform dressing was found more satisfactory than gauze soaked in eusol as the latter required to be changed daily The subsequent dressings carried out daily comprised washing the area thoroughly with warm eusol (0 5 per cent hypochlorous acid) and packing it in the same manner as before but with the gauze soaked in eusol By this method the area was kept permanently clean the serous discharge reduced to a minimum and the granulation tissue never became vegetative

It was noticed that eusol could be applied continuously in the prolonged treatment necessary for the closure of these large open wounds whereas other applications could not be so used and required to be alternated with each other

A distinct advantage of the eusol dressing is the marked reduction of the serous exudate This allows the deeper parts of the wound to be lightly packed and the superficial area to be firmly packed, there being no question as to obstructing the outflow of the discharge In this way the superficial tissues are kept widely separated, and the deep seated wound in the bone can be observed healing The very slight amount of serous discharge which occurs readily passes through the perforated green protective and is absorbed by the eusol gauze, which, however, never becomes sodden, and in no case thus treated was there trouble from hæmorrhage or overgrowth of granulations

There has been little opportunity of testing the value of eusol in acute suppurative cases, but in a few patients with gangrenous appendicitis it was noted that the period of drainage and pus discharge was much curtailed when the area was thoroughly cleansed with eusol In three such cases the tubes were removed upon the third day, and all discharge had ceased by the sixth day These patients left hospital completely healed in 21 days"

3 SEROUS AND SYNOVIAL CAVITIES

Note by Lieutenant Colonel Caird

"Cases of extravasation of urine and gangrenous appendicitis with fæcal fistula, temperature was reduced and sepsis controlled on being treated with eusol"

Mr W Q Wood's Case

TABLE A, CASE 89 —In this case—one of perforated gangrenous appendix—the patient was very collapsed on admission, with a temperature of 100° F and a pulse of 132 She had been ill for 5 days Immediate operation Patient had general peritonitis with foul smelling pus and a quantity of free gas throughout the lower part of the abdomen The abdomen was freely douched out with eusol The patient made an uninterrupted recovery This case demonstrates the fact that eusol can be employed in the peritoneal cavity with the greatest safety

Note by Captain Stiles

"In the Hospital for Sick Children the method of treatment in cases of appendicitis is to irrigate the drainage tracks freely twice daily two days after the operation Formerly peroxide of hydrogen was used for this purpose better results, however, have been obtained by application of eusol, and the patients are discharged about a week earlier than was previously the case"

Note by Captain Stuart

"*Appendix cases* —I have employed eusol during the last seven months in 14 cases of acute appendicitis, where the appendix was gangrenous and perforated, with offensive pus round it In all cases the peritoneal cavity was necessarily opened the appendix was removed and a rubber tube left in the lateral wound while a glass tube was introduced to the bottom of the pelvis through a suprapubic opening The glass tube was almost invariably removed on the second or third day, and the rubber tube gradually shortened till healing occurred In the early cases no eusol was employed at the operation The cases in question all behaved in very much the same way There was a fairly profuse very offensive discharge from the lateral tube and on about the fourth or fifth day the larger rubber tube having been taken out a small one was passed down to the bottom of the wound and about half a pint of eusol syringed down the tube, so as to well out by the side of it the larger tube being again replaced In a few cases this was done twice daily for two or three days and then once daily in most of the cases only one daily dressing was performed from the first As a rule, in two to four days the smell had practically disappeared, the infection disappearing with a rapidity which I have not seen under any other treatment When the sinus became practically aseptic the use of eusol was stopped, otherwise healing was delayed

In the last two or three cases I have at the operation swabbed out the region of the appendix with slightly warmed and therefore slightly dilute eusol and poured it through the lateral wound down into the pelvis This eusol was sucked out again through the suprapubic tube at the close of the operation I have not yet done this often enough to form an opinion regarding it but in these very few cases I think that the discharge afterwards was less profuse and less offensive though asepsis was not secured

Note by Captain Stiles

"*Empyema* —In my experience empyemas do well if they are opened early and if a large enough opening is made to enable the fibrinous masses to be removed If this is done there is usually no need to keep the tube in more than a few days The main point, however, in the after treatment is the prevention of mixed infection This is best effected by the application of a large eusol dressing, which should be changed daily And this leads me to say that I have met with no cases in which any irritation of the skin has resulted While I have not thought it necessary to douche out the pleural cavity at the operation I have found that in old standing fœtid empyemas the best results are to be got by free irrigation with eusol, as by this means the fœtor is more rapidly controlled than by the use of any other antiseptic, and the fever is at the same time more effectively reduced."

Major Hodsdon's Case

"*Streptococcal synovitis* —Patient was wounded in the left leg in Gallipoli on Oct 25th. A bullet was removed from the leg on Nov 8th on board a hospital ship When he was admitted into the Royal Infirmary on Nov 16th there were three large suppurating wounds in the calf. An abscess over the internal malleolus was opened on Nov 24th. On the 26th the temperature was 102°–103° F , pulse 120–125 There was effusion into the knee joint The joint was aspirated on the following day , sero-purulent fluid (which gave a pure culture of streptococci) was drawn off and 2 oz. of eusol injected into the joint. The knee improved during the next 24 hours On Nov 30th the temperature was 102° , pulse 112–124 , the joint tightly distended and very tender to touch. The patient was extremely ill and toxic in appearance Under general anæsthesia the effusion, which was now purulent (and still gave a pure culture of streptococci), was removed by aspiration, the joint washed out with eusol and freely moved until the fluid which returned was clear , finally the synovial cavity was distended with eusol, the puncture being closed by a clip to prevent escape of the antiseptic The following day the general and local conditions showed marked improvement and the joint was painless to touch. The temperature however, remained at 101°–102° and the pulse at 112–118 until Dec. 3rd, when a collection of pus was evacuated from the lower third of the thigh. Two days later the temperature was normal, the pulse 108 the joint condition had completely subsided, and passive movement was painless "

4 Mucous Surfaces

In acutely inflamed mucous surfaces the application of eusol may produce pain and discomfort On the other hand, in chronic inflammation even the full strength can be easily borne In the tables only a few cases are recorded of application to mucous surfaces In cases of cystitis or colitis the eusol for the first application may be diluted with warm normal saline to 1 in 10, but it will be found that the patient can soon tolerate a much greater concentration

Lieutenant Colonel Caird's Case

"Suprapubic removal of extensive papillomata of bladder , great hæmaturia, foul urine On the day after operation the temperature rose to 100° F the pulse to 120 and the following day the patient looked very ill The bladder was washed out with eusol, and at night the temperature was normal and the pulse had fallen to 112 Subsequent progress satisfactory '

5 Inflammatory Lesions.

(*a*) *Cellulitis*

Captain Stiles's Case

TABLE A CASE 36 —The patient was a nurse who had a whitlow of the thumb She was very ill, with a temperature of 104° F and a suppurative condition extending along the long flexor of the thumb into the forearm There was marked œdema of the thumb with swelling and tenderness of the axillary glands A free incision was made in the palm and another longer one in the forearm down on to the flexor longus pollicis tendon. The limb was then placed in a eusol bath for two hours twice daily, and in the intervals a boric bath was substituted The fever disappeared in a few days, the œdema quickly subsided, and the wound rapidly became covered with healthy granulations

(*b*) *Abscess* (See Table A, Cases 25 and 26)

(*c*) *Amputations through Septic Tissues*

Note by Captain Stiles

"In performing these amputations I have been gratified to find that by douching the flaps very freely with eusol and applying eusol dressings very frequently the healing has been almost as rapid as in an aseptic amputation "

While the report does not include cases of amputation for "gas gangrene" the committee may be permitted to refer to the results obtained by Captain John Fraser in the field, an account of which was published in the *British Medical Journal* on Oct 9th, 1915 He showed that by the application of eusol he was enabled to amputate successfully through infected tissue

(*d*) *Arthritis with Mixed Infection, Amputation*

Captain Stiles's Cases

TABLE A, CASE 24 —"This was a case of very advanced hip-joint disease with extensive involvement of the acetabulum and septic sinuses At the operation the sinuses were dissected away as far as possible, and after thoroughly irrigating the wound with eusol, eupad was freely applied to the curetted acetabulum and to the unhealthy tissues round about the sinuses The child's condition improved very quickly, and I am satisfied that the healing process was more rapid than I had been accustomed to see in similar cases which had not been treated with eusol

The beneficial action of eusol was even more strikingly shown in another amputation of the hip-joint in a child who had suffered from severe osteomyelitis of the shaft of the femur with secondary involvement of the hip-joint The flaps healed practically by first intention and the child who was almost moribund at the time, put on weight with great rapidity, and is now, eight weeks after the operation in robust health No doubt the removal of the septic area accounted for the child's recovery, but the eusol, in my opinion, certainly added greatly to the rapidity and completeness of the convalescence '

(*e*) *Tuberculosis of Bones*

Note by Captain Stiles

"After removing the tuberculous focus it has been my practice recently to apply eupad freely to the cavity which has been left, using it as a substitute for sublimated iodoform bismuth paste I have also applied it freely to the curetted acetabulum after excising the hip for tuberculous disease I have then stitched the muscles over the trochanter and closed the wound without drainage The eupad did not appear to produce any pain or irritation Healing by first intention resulted but the same has occurred after the application of sublimated iodoform bismuth paste '

6 Skin Infection

Dr J W Crerar's Case

"Case of coccogenic sycosis (Unna) treated with eupad On Sept 20th Lieutenant S presented himself with extensive pustular eruption of chin, cheeks and neck, the pustules closely aggregated on chin, especially just below the lower lip discrete on the cheeks and neck. A paste of eupad and water was thoroughly rubbed into the whole infected area and left in contact for 15 minutes This was washed off and an indifferent bland ointment was ordered On Sept 22nd (two days later) close examination with a lens revealed only 3 small pustules on the neck To these a paste of eupad was applied On the 24th (two days later) 3 fresh pustules were seen and similarly treated , no others to be seen. On the 27th (three days later) careful examination failed to reveal a single pustule Cheeks and neck were normal and the only sign of the condition was slight (non pustular) excoriation below the lower lip Treatment completely cured the condition within one week Cultures from a pustule gave a growth of staphylococcus pyogenes aureus For application of eupad in this manner it is advisable to place a pad of gauze moistened with solution of sodium hyposulphite over the mouth and nose to prevent respiratory irritation from the hypochlorous acid gas '

7 RECTAL OPERATION

Major Hodsdon and Mr Wood s Case

TABLE A, CASE 5 — 'A feeble man aged 68 Colostomy on August 15th, the lower part of the rectum and anal canal excised under spinal anæsthesia on August 26th, wound packed with iodoform gauze On the evening of the 26th the temperature was 99° F and pulse 120 On the morning of the 27th the wound was sloughy and the discharge very fœtid, temperature 98 4°, pulse 124 The wound was syringed out with eusol and packed with gauze dusted with eupad That night the pulse rate fell to 88 and subsequently never exceeded 96 The fœtor rapidly diminished, the wound was granulating on the third day and healing satisfactorily The eupad packing was discontinued on August 30th, the syringing once daily with eusol was continued until Sept 20th "

Captain Stiles s Case

TABLE A, CASE 6 —"The wound was that of a large carcinoma of the rectum just within reach of the finger A preliminary colostomy was first performed and the rectum excised a few weeks later by the sacral route The wound healed by first intention, and the drainage openings were completely closed at the end of the fifth week. I attribute the absence of fever after the operation, the general well being of the patient, and the rapid healing mainly to the closure of the end of the divided bowel, but partly also to the daily irrigation with eusol of the large cavity left in the pelvis Experience of rectal cases suggests the value of eusol in inoperable cases of carcinoma of the rectum after colostomy, also as a vaginal douche in inoperable cases of carcinoma of the cervix uteri and other septic conditions about the female genital passages

Operation for Carcinoma of the Mamma

Lieutenant Colonel Caird s Case

"Markedly septic case with foul odour Huge fungating carcinoma of the mamma Removal complete with glands On the seventh day the discharge became very offensive and penetrating, eusol dressings were applied twice daily On the second dressing all odour had gone, the discharge diminished and had practically ceased at the end of a week Patient up on seventh day Wound stationary for a time, a change to boric acid and red lotion at once hastened healing Throughout the patient had no elevation of temperature or rise of pulse "

GENERAL CONCLUSION

Further clinical experience of eusol in a great variety of cases has proved it to be a non toxic, non irritating, and efficient antiseptic Nothing in this experience has been more striking than the fact that while it is highly destructive to bacteria it is non toxic to the tissues In eusol free hypochlorous acid is the most essential ingredient, but there is present also a sufficient quantity of biborate of calcium to give the solution a reaction alkaline to litmus This feebly alkaline solution can be introduced into wounds or serous cavities with perfect safety It can even be left in such cavities in quantity without any harmful effect In lacerated and contused wounds, and in compound fractures, such as are met with in military practice, it is the most efficient antiseptic we possess

It is most efficacious during the period of what might be termed progressive sepsis Some surgeons have emphasised the benefit of modifying the treatment when sepsis is subsiding or has ceased. The granulations form after a period of two to three days, and rapidly cover the surface of the wound Any tendency to superabundant growth of granulations and consequent delay in healing can be counteracted either by so applying the eusol that the serous discharge is reduced to a minimum and the wound is kept dry, or by discontinuing eusol and using other dressings appropriate for healing wounds In any event the sepsis is by this stage completely under control

The freedom which can be exercised in the application of eusol, and the rapid action which it has in arresting the sepsis and discharge of an infected wound, led to experiments on the effect of eusol on the blood Following on this eusol was employed in the treatment of general septic toxæmia by intravenous injection

This method was first made use of by Lorrain Smith, Ritchie and Rettie,[1] in a case of grave puerperal septicæmia, and the result was the recovery of the patient They have applied the treatment in other similar conditions In several cases toxæmia has been successfully overcome, and although such a result has not been uniformly attained, the safety of the method justifies its being applied in the diseases referred to in their preliminary communication Intravenous injection has also been applied with success by Captain Fraser and Captain Bates in cases of acute toxæmia secondary to gas gangrene [2]

Further research is now being carried out on the development of the subject foreshadowed by these investigations

APPENDIX

Some practical considerations remain Hypochlorous acid is an extremely active bleaching agent, and it should therefore not be brought into contact with coloured fabrics Further, if cloth is kept in the solution for some time its fibres are made brittle from destruction of the texture Any towels, &c, which become wetted by the lotion should be forthwith rinsed in a large quantity of water to remove the acid as rapidly as may be It also is corrosive to metals, instruments, needles, &c, should be carefully treated, else they will rust

The lotion is exceedingly inexpensive The ingredients are procurable everywhere at a slight cost, and the preparation is a very simple process At the present time especially it will be found that the introduction of eusol will effect economy in the outlay for the treatment of septic wounds, a point of considerable importance, since phenol and its derivatives are becoming increasing difficult to procure

Finally, it may be useful to set forth the details for preparing the antiseptic Eupad powder is composed of equal weights of *boric acid and bleaching powder* The boric acid *is in sufficient excess to set free the hypochlorous acid in the solution* The bleaching powder should be dry and should contain 28 to 30 per cent available chlorine

The solution eusol is prepared as follows Add to 1 litre of water 25 grammes of the powder, shake well and allow it to stand an hour, then filter The clear solution is eusol, and contains about 0 5 per cent hydrochlorous acid If the bleaching powder is old or not up to the strength given above, use a larger quantity of the powder

A rough and ready method of preparation is to add ½ oz. of the mixed powder to 1 pint of water, stir or shake and allow the sediment to settle

In cold weather the solution will keep its strength for three weeks, in hot summer weather it loses its strength more rapidly, and should not be kept more than one week It keeps best in bottles of coloured glass in a dark cupboard

For use as a lotion the solution must be warmed This may be done by placing the bottle in a basin of hot water, or the solution may be made double strength (50 grammes to the litre) and diluted with an equal volume of hot water The double strength solution will not keep its value for more than two days

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[1] Brit Med Jour Nov [illegible]

[2] [illegible] Jan [illegible]

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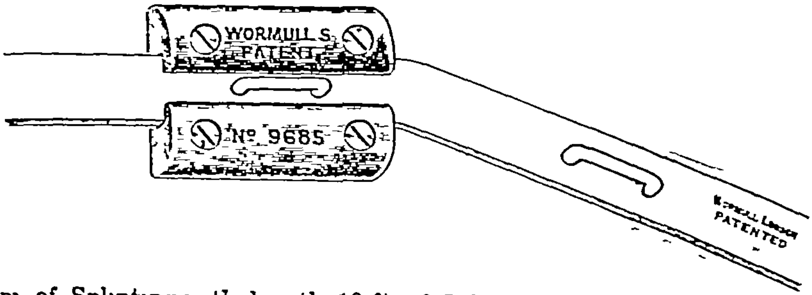

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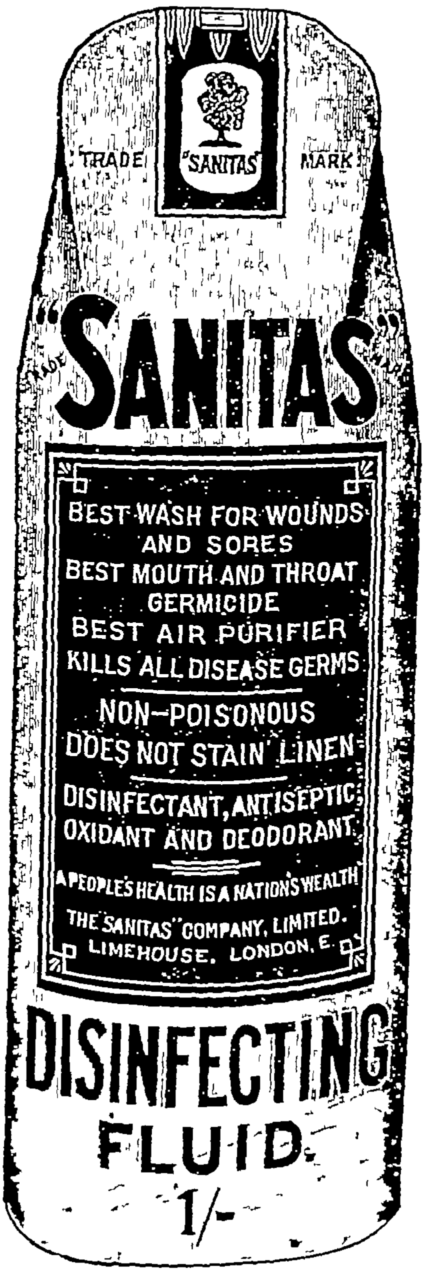
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THE LANCET.

LONDON SATURDAY, FEBRUARY 12, 1916

Physical Treatment for Disabled Soldiers

A QUITE serious problem which faces not merely the Army Medical Service, but the medical profession as a whole, is the relief of the injuries of warfare Where these are actual wounds treatment is never considered complete until the wound has healed and the continuity of surface re established It seems sometimes as though too much thought is concentrated on the surface appearance of recovery, while the efficiency of the man as a worker depends rather on the function of the underlying structures of the locomotor system, the joints and the muscles and tendons which move them. Where limbs are lost entirely, careful and ingenious measures have been applied to replace them and to perfect the substitutes Where, however, stiffness and pain and disability remain in limbs which have been saved, men have been, and are still being, discharged from the services before these disabilities are entirely removed We published last week a proposal[1] for the combined physical treatment of wounded and disabled soldiers which may prove to be the beginning of a great national scheme The committee from whom this proposal emanates was appointed more than a year ago by the Balneological Section of the Royal Society of Medicine, and has had the advantage of the coöperation of the President of the Royal College of Physicians and of the Deputy Director General of the Army Medical Service We see here the beginning of a movement that may have far reaching effects

NAAMAN despised the use of water as a healing agent, and we to day, in this country, seem sometimes to have a similar attitude, probably because the application of simple physical remedies to the cure of disease has been so often associated with conspicuous charlatanry Yet it is droll that, in the country where water is so largely used as an agent of personal cleanliness, its other properties should be disregarded. Outside this country the medicinal value of baths is hardly a matter of dispute Pfafers alone—to name an instance—commands 100,000 such visitors annually And the revival of the British spas now that the European ones are less accessible testifies to the existence of the need for hydrotherapy and its allied physical methods It is an old observation that stiff limbs otherwise intractable, can often be mobilised with comparative ease and without pain after preparation by moist heat The work at the Grand Palais in Paris, which is summarised in the report of the committee of the Balneological Section of the Royal Society of Medicine, is now offering a concrete example of the application of such methods on a large scale to the special needs of the moment, and the results should be a matter for careful scrutiny The committee which has studied this work is of opinion that an opportunity should be given in this country for an effective scheme of similar treatment in an institution devoted to the purpose It is now for the medical profession as a whole to consider whether the claims made out for the movement by its sponsors are sufficiently well founded to warrant such a course We think they are

The details of such a scheme are of secondary importance There need be no slavish imitation of the Grand Palais The four component methods of a combined physical treatment are (1) baths, warm or cold, (2) the application of dry heat, whether radiant or hot air, (3) massage or mechanical mobilisation, (4) electricity In the application of each of these much variety is possible Under the first heading the "whirl" bath has been found of special value in Paris It is probable that just as under the stimulus of competitive manufacture, improvements in artificial limbs and their application are, we learn, being evolved, so where the opportunity for the comparison of various bathing methods is offered a natural evolution of efficiency would occur There may, for instance, be some difference of opinion as to the relative value of active and passive movements, and whether the latter can best be applied by a human agent or by apparatus of the Zander type The Zander apparatus is unfamiliar in this country, but where it has been scientifically applied, as at the Edgar Allen Institute at Sheffield, it commands a considerable measure of support Some who have seen these institutes at Stockholm and elsewhere have found them full of elderly individuals who take too much food and too little exercise, and for whom the Zander treatment provided an agreeable form of forced labour The principal advantages of the Zander apparatus over the passive movements by a human agent seem to lie in the economy of personnel, the accuracy of dosage as regards time and number of movements, the exact amount of resistance applied which can only be accurately measured and graded by an apparatus It thus would make for greater efficiency in so far as the movements prescribed by the experienced operator could be the more accurately dispensed In actual practice the best result will emerge It stands to reason, also, that there must be full opportunity for investigation of the condition which is being dealt with in each case if any of the methods of physical treatment are to be rationally applied, it must be possible to make an X ray examination, and if desirable to examine under an anæsthetic. Time must not be wasted in the physical treatment of cases of hopeless ankylosis or of small but painful adhesions which can be promptly cured by stretching under an anæsthetic All this seems to point to the justice of the conclusion that the combined physical treatment should be carried out in an institution specially devoted to it, and by a staff of the necessary experience

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[1] THE LANCET Feb 5th p 311

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Dentists and Military Service

THE position of dentists in Lord DERBY'S scheme does not seem to be entirely satisfactory Recently Mr TENNANT was asked whether he was aware that local tribunals were refusing to exempt or to postpone to a later call dentists duly qualified In his reply he stated that the cases were to be decided by local tribunals This condition of affairs is unsatisfactory, inasmuch as there will be no conformity of treatment, the exemptions varying with each tribunal, and that variation being determined largely by the constitution of the tribunal Surely some definite guiding rules should be issued, so that all could be dealt with on parallel, i e, equitable, lines It would have to be understood that the unregistered have no *locus standi*, and also the wants of districts must be carefully considered Injustice may arise if those attached as civilian dentists are exempted on account of such appointments Many of these appointments are purely local and have not been made after consideration of the position of other dentists in the same districts, and many of the individuals holding these appointments are of military age, and their work could quite easily be done by practitioners in the same district who are outside the scope of the group system Still further, consideration must be given to those holding school appointments The work done by these officials is of great national importance because they are making potential military efficients There is no doubt that a large number of dentists of military age can be called to the colours without disorganising the civilian wants, but it is essential that those individuals should be used to supply the dental needs of the army and should not be utilised as combatant officers

Mr F NEWLAND PEDLEY'S letter in our issue of Jan 29th is in this connexion worthy of the serious attention of the Army Medical Service The organisation of the dental services in our army is most indifferent and this is in a large measure due to the fact that it is in the hands of officials who can possess no special knowledge of dentistry The waste of public money over the treatment of the soldiers is well known, and has been mainly due to the fact that there has been no one in close touch with the authorities who possessed the necessary special knowledge Recently dental inspectors have been appointed, but in many instances these have been young men who have not held responsible positions in dental institutions these appointments are unsatisfactory in the sense that their holders may often be brought into contact with men more capable in their profession than they themselves can claim to be There is no doubt that the dental services of the army would be far better carried out if the Army Medical Service would delegate the work to a medically and dentally qualified officer with the rank and position commensurate with the importance of the position

There are proofs that unfamiliarity with the claims and achievements of modern dentistry prevails throughout the medical services. Medical officers of hospitals when dealing with cases of injury of the jaw too often omit to call in the aid of the dental surgeon, and many of our injured soldiers may have been doomed to permanent deformation of the jaw through this neglect The Eastern Command has, we understand, organised at Croydon a special hospital for dealing with cases of injuries of the jaw, and the result has proved to be most satisfactory If the Eastern Command can organise such a hospital why cannot the other commands do likewise? We think that there is an absolute necessity for grappling with the problem of fuller dental attention to the army, and public opinion is day by day becoming more and more alive to the necessity of the proper dental treatment of the troops The modern medical man realises that the properly trained dental surgeon's opinion is worthy of respect and that it is impossible without special knowledge to deal rationally with the problems which must arise in connexion with dentistry The services now command the activities of our leaders in every branch of medicine and pathology, we are certain that these officers would individually and collectively agree in the justice of the claim that the sailor and soldier should have the best dental aid

Annotations.

"Ne quid nimis"

INOCULATION OF CIVILIANS AGAINST THE ENTERIC GROUP

THE fact that so many soldiers are returning to this country convalescent or actually suffering from typhoid, paratyphoid A or paratyphoid B naturally gives rise to an apprehension that some danger to civilians might thus occur Hitherto there has been no evidence of this, but information has reached us that, at any rate in one district, there has been a rise in the notifications of the diseases coming under the enteric group, and in that district there are a number of soldiers recently returned from over seas Every precaution has been taken by the military authorities to guard against infection and prevent carriers from mixing with the general population No patient who has been diagnosed as suffering from one or more of these diseases is permitted to leave hospital until at least three negative bacteriological examinations have been made of the stools There may be some cases however, in which the disease has been so slight owing to previous inoculation that the man affected has not "reported sick and so the disease has escaped detection, nevertheless that man may possibly be a carrier It is probable that such cases are few It behoves the sanitary authorities also to take all necessary precautions and to ensure that all cases occurring among civilians should be at once isolated, but it is not easy to ensure that all patients are dealt with in an early stage, it is possible that some of the cases are of the ambulatory form and so may not be diagnosed. Such difficulties, however, are met with at all times, and the question arises whether the risks now run by civilians in places where military hospitals are situated are such that preventive inoculation should be strongly advocated Our attention has been drawn to an outbreak of typhoid and paratyphoid fever which has occurred in Reading, and our correspondent strongly urges preventive inoculation There is no doubt of the success that has followed the inoculation of the troops, but they are exposed to much greater danger than are civilians in this country, owing to the possible contamination of the water supply, and in warm countries, such as was the case in Gallipoli, by the food becoming infected by flies It is well known that ordinary precautions as regards cleanliness taken by those in charge of the sick will go a long way towards prevention of infection, and it is probably only in the event of the water or milk supply becoming contaminated that a serious outbreak is likely As far as the evidence goes at present we should not feel disposed to urge compulsory inoculation—such a proposal might be followed by an agitation which would be reflected among recruits, but that civilians should be *advised* to be inoculated against the enteric group is a proposition that might well be supported The information in regard to Reading is the first instance reported to us of an outbreak possibly attributable to returned soldiers More evidence would be required before any drastic steps could be taken by the sanitary authority with regard to the general population, but that inoculation might be a prudent step in those districts in which several cases have been notified amongst civilians cannot be denied

THE ADMINISTRATION OF THE PHARMACY ACTS

A SATISFACTORY statement in the annual report of the Pharmaceutical Society, which was presented to the Council of the Society at the February meeting, points to an increase in the number of names on the Register of chemists and druggists A contrary experience would not have been surprising, since such large numbers of pharmaceutical apprentices and students have joined the army But notwithstanding this fact nearly 1000 candidates entered for the qualifying examination last year, which is an increase of something like 15 per cent on the previous year It seems reasonable to assume that one of the causes of this increase was the desire on the part of students to obtain their qualification before joining the colours, and signs are *not* wanting that during the present and the next few years the number of candidates may be diminished to a material extent, for there is already a very heavy falling off in students A diminished Register may therefore be expected, but the reduction is not likely to be of such a serious nature as to cause public inconvenience, since the proportion of pharmacists to the population is now something like 1 to every 2000, a proportion which in some continental countries would be regarded as excessive In any case the standard of the qualifying examination will *not* be lowered in order to enlarge the Register The membership of the Society continues to grow, and now consists of almost exactly one half the number of those eligible for membership, which, for a voluntary Society, may be considered satisfactory Turning to the part of the report which deals with the administration of the penal clauses of the Pharmacy Acts, it is seen that the war has not interfered with the activity of the Society's law department, for over 1000 cases of alleged *infringement* were investigated and proceedings were instituted in no less than 300 cases, compared with 239 cases in the previous year In the majority of instances the defendants were unqualified drug store proprietors who had been usurping the functions of qualified pharmacists It is clearly the view of the Pharmaceutical Society that it is just as necessary in war time as in peace time that the public should be protected from the danger involved by the indiscriminate selling of poisons

THE TREATMENT OF PELLAGRA WITH SODIC CITRATE

WE had occasion in 1914[1] to call attention to the researches of Dr G Alessandrini and Dr A. Scala, showing that silica in a colloidal state produced in various animals an intoxication in which the clinical picture and pathological lesions corresponded completely to those of pellagra *These* observers, moreover, demonstrated that by causing monkeys to drink the opalescent water of pellagrous districts, which is also drunk by the inhabitants, a similar intoxication results, They came to the conclusion that the cause of this disease was the silica, and probably also the silicates, existing in the drinking water in a state of solution or colloidal suspension They added, however, that *not* all water which contained silica will cause this intoxication, since the silica is capable of forming, like the colloids, unstable combinations with the electrolytes, and these combinations may be innocuous They said, further, that carbonate of calcium and the alkaline carbonates prevent the toxicity of the silica Dr Alessandrini and Dr Scala now state *in a further* communication (*Il Policlinico, Practical* Section, Jan 16th, 1916) that it is not *sufficient to assert that* their conclusions do not *merit* consideration simply because the cause of pellagra is incontrovertibly connected with the *consumption* of maize, every part of which has been minutely analysed and experimented upon, without giving the clear, striking, and broad results obtained by them in their experiments Neither is it a valid objection which has been put forward by Sandwith that in Egypt, where pellagra is also *found, there* are no areas of silica, for the reason *that* the water of these localities has not been examined, and that it has never been denied *that argillous* strata exist in which the water lies which *afterwards* forms into springs and from which *they* may be contaminated Besides, it is incredible *to* them *that* a desert soil *like* that of Egypt should be wanting in silica In their former communication Dr Alessandrini and Dr Scala referred to ten cases of pellagra cured by intramuscular *injections* of sodic citrate, 1 c c of an aqueous solution of 10 per cent, leaving the patients in their original surroundings, at their ordinary occupation, and on their usual scanty diet. They have now collected a further number of cases, from various parts of Italy *treated* in the same manner In 44 out of 50 thus treated excellent results were obtained, especially when it is noted that there was no other factor to cast doubt on the curative effect of the remedy Of the remaining 6 cases, in 3 a marked improvement in the general condition was observed, although the cutaneous manifestations were but slightly improved Of the other 3, only 1 could be said to give an entirely negative result, and in this chronic articular rheumatism and endocarditis existed, while another was of advanced age and was subjected to a limited number only of injections The observers express the hope that extended trials will be given to this treatment, believing that, if the theory of the cause of pellagra is not recognised as proved, the benefit of the method will be more largely taken advantage of Then, where possible, the drinking water of pellagrous districts will be purified

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[1] THE LANCET Sept 12th, 1914 p 713 April 7th, 1915 p 794

THE REGULATION OF PROSTITUTION IN SWEDEN

THE proposal in Sweden of a Royal Commission to abolish the regulation of prostitution by the police[1] has been investigated by the Swedish "Medicinalstyrelse," or Board of Health, and this department has solicited the opinions of various authorities throughout Sweden with the result that widely divergent views as to the efficacy of regulation appear to be held Although the proposals of the Commission, which are antagonistic to regulation, are endorsed by most of the authorities consulted, only a minority unequivocally urge the total abolition of regulation The authorities in favour of abolition have, in many cases, had considerable experience of regulation in the large towns which still countenance regulation, or, after having permitted it for some years, have abandoned it Stockholm, Gothenburg, Norrköping, Christianstad, and Sundsvall still retain regulation, while Malmö, Helsingborg, Uppsala, Lund, Jönköping, Eskilstuna, and Falun have abandoned it In Gothenburg, for example, the medical officer deputed to examine prostitutes, frankly states that he is unable to recommend the maintenance of regulation, whether it is made more stringent or more lenient The many objections to regulation are, he says, certainly not outweighed by the relatively slight sanitary advantages of this measure The sanitary authorities and the police of Malmö agree that the objections to regulation are so serious that abolition is practically inevitable Regulation, it appears, was introduced in Malmö towards the end of the "eighties" Early in 1905 the police ceased to register new prostitutes and early in 1908 the system was abolished, the vagrancy laws being applied in certain cases as a substitute These changes were followed by a marked reduction of prostitution in the streets, but it is not possible exactly to estimate the extent to which the application of the vagrancy laws to prostitutes was responsible for this reduction It is, however, certain that the vagrancy laws were far more effective and awe inspiring when applied as a substitute for regulation than when treated as a subsidiary to regulation It was found from a modified form of notification of venereal disease obtaining in Malmö that its incidence fluctuated much from year to year in the period 1892–1913, but that the abolition of regulation was followed by an appreciable fall in the incidence of this disease This fall may, it is admitted, have been due to other factors, but at any rate it shows that the abolition of regulation does not necessarily promote the spread of venereal disease, and that regulation as far as Malmö is concerned, is far from necessary

OCCUPATIONAL INJURIES DUE TO RADIUM

IN the *Journal of the American Medical Association* of Jan 1st Professor T Ordway, of Albany Medical College, has described the effects observed during a year's radium work at the Hunting Hospital Those who were applying radium in the treatment of patients noticed after a few weeks a slight though gradually increasing sensory disturbance in the finger tips, particularly on the ulnar side of the first phalanx of the thumb and the radial side of the terminal phalanges of the index and middle fingers of each hand. These symptoms began insidiously and consisted of blunting of sensibility of the finger tips, increased sensitiveness to heat and pressure, amounting at times to pa and anæsthesia of varying degrees They were o of proportion to the objective changes, which consisted of flattening of the natural ridges on the affected fingers with consequent changes in the finger prints, thickening of the horny layer of the epidermis with scaling, failure of the finger tips t resume their normal shape after pressure, a sort of pitting and upgrowth of the cuticle at the base of and underneath the nails, which became extreme brittle and tended to stand off from the finge The assistants and nurses were warned of the dangers and told not to handle the emanation tubes with the fingers but to use forceps But some handling is unavoidable For example, a medical practitioner began making routine applications of radium early in November, 1913 The increased in number until the latter part of January, 1914, after which they were few Afte some weeks the tips of the thumbs, particularly towards the ulnar side, and of the fore and middle fingers, especially towards the radial side, gradually became numb and deficient in sensibilit There was greatly increased sensitiveness to hea paræsthesia in the form of a peculiar feeling in th finger tips, and awkwardness in delicate manipula tions Small objects were frequently dropped an there was difficulty in taking pulses The affecte portion of the fingers became smooth and shiny an the ridges almost obliterated Later the epiderm became thickened, dry, and parchment like, and o pressure the finger tips remained indented fo some seconds The thickened horny layer becam wrinkled and cracked and desquamated The nail stood off from the flesh of the fingers and ther was a tendency to the upgrowth of tissue beneat the nail At present, although the patient ha handled radium for therapeutic application onl occasionally for almost a year, the dryness part anæsthesia and slight tenderness of the finger ti persist Changes in the blood of radium worker have been described by Gudzent and Halberstaedt —relative and absolute increase of lymphocytes a relative and absolute decrease in neutrophil These were also observed by Professor Ord Various general symptoms, such as headach malaise weakness unusual need of sleep irri bility, and disorders of menstruation have b described, but it is doubtful whether they are d to the radium or to other causes, such as cl confinement and tiring routine To preve these effects Professor Ordway advises that in t application of radium there should be a rotation of the staff, and affected persons should at least temporarily abandon the work Protection should be given as far as possible by screens in the form of boxes or plates about the radium The operating rooms should be well ventilated, particularly if any radium emanation is present

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[1] THE LANCET Jan 8th 1916 p 89

JUVENILE CRIME

THERE is no need to dilate upon the many enactments for the welfare of our children recently placed on the Statute book. Some of these have now been in operation long enough to yield a good result, but the outbreak of war appears to have had a contrary effect A boy, aged 10, and his brother, aged 8, were charged at Leicester recently with setting fire to a council school The boys when arrested admitted that they wished to burn the school down Such a story points to a wave of lawlessness which can be noted among children, not in isolated parts of the country, but in all directions, and the connexion of this juvenile anarchy with the circumstances of the country in time of war may be presumed It can only be presumed as the figures for 1915 are not yet available, and those for 1914, which have just been issued, can only have been influenced to a minor degree by the war But these show that we have very inflammable material to deal with In juvenile courts 14,845 children were charged in 1914 with indictable offences This figure is 500 more than in 1913 Of non indictable offences, no fewer than 22,084 children were charged, making a total of 36,929, made up of 35,080 boys and 1849 girls Peace time or war time these figures are appalling enough It will be noted that they include a period of four months of war, and judging from the experiences in towns and country districts up and down the country the figures for 1915 will show a still greater increase in juvenile crime. Various reasons are combining to promote lawlessness among children The absence of fathers from home, the general unrest, the absorption of teachers in other things than pedagogy, and lastly, the picture palaces From a medico legal point of view, we are not sure that these places are sufficiently scrutinised Certain films appear designed to stir the love of danger among children in a most unfortunate way The children give immediate rein, oftentime in reckless and wanton bravado, to forms of emotion which find vent in crime Local authorities would do well to press for greater control over picture palaces, somewhat on the lines of what has been adopted in Liverpool, and, maybe, elsewhere—namely, day performances consisting of films of an educational or harmless character and approved of by the education authority, and the exclusion of children from evening performances, unless accompanied by parents or other adults Government intervention may otherwise be necessary

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> That by virtue and in exercise of the powers vested in the Council of the Pharmaceutical Society of Great Britain by the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act 1908, the said Council does hereby resolve and declare that the article in Part I of the Schedule to the last-named Act, "opium and all preparations or admixtures containing 1 or more per cent of morphine" ought to be removed therefrom, and that the article, 'opium and all preparations or admixtures containing 0 75 per cent of morphine" ought to be added thereto

This resolution will bring the "laudanum" of the British Pharmacopœia, 1898, into the first *part of* the Poison Schedule In view of the known attitude of the Privy Council in relation to this matter, there can be no doubt that the Pharmaceutical Society's recommendation will be approved and gazetted in due course The steps that have led up to this action have already been recorded in THE LANCET, and it is satisfactory to know that the Pharmaceutical Society has taken what is undoubtedly the proper course

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THE New Year number of the *Journal of the American Medical Association* gives its usual annual summary of the deaths of medical men in the United States and Canada. Based on a conservative estimate of 156,000 practitioners, the annual death-rate was 15·71 per 1000, being exactly the average for the last 14 years The chief causes of death in the order named were the same as for the previous year—viz., senility (400), heart disease (218), cerebral hæmorrhage (218), pneumonia (154), accident (104), and nephritis (90) The average age at death was a little over 59, 212 deaths occurred between 81 and 90, 30 between 91 and 100, while one physician attained the age of 102 years The average number of years of practice was 32½ The causes assigned for the deaths from accident were automobile, 23, falls and drowning, each 16 (of the latter, 5 were drowned in attempting to save lives), poison, 11, automobile and railway accidents, each 10, burns, 4, firearms and by injuries from animals, manner In 44 out of 50 thus treated excellent results were obtained, especially when it is noted that there was no other factor to cast doubt on the curative effect of the remedy Of the remaining 6 cases, in 3 a marked improvement in the general condition was observed, although the cutaneous manifestations were but slightly improved Of the other 3, only 1 could be said to give an entirely negative result, and in this chronic articular rheumatism and endocarditis existed, while another was of advanced age and was subjected to a limited number only of injections The observers express the hope that extended trials will be given to this treatment, believing that, if the theory of the cause of pellagra is not recognised as proved, the benefit of the method will be more largely taken advantage of Then, where possible, the drinking water of pellagrous districts will be purified

THE REGULATION OF PROSTITUTION IN SWEDEN

THE proposal in Sweden of a Royal Commission to abolish the regulation of prostitution by the police[1] has been investigated by the Swedish "Medicinalstyrelse," or Board of Health, and this department has solicited the opinions of various authorities throughout Sweden with the result that widely divergent views as to the efficacy of regulation appear to be held Although the proposals of the Commission, which are antagonistic to regulation, are endorsed by most of the authorities consulted, only a minority unequivocally urge the total abolition of regulation The authorities in favour of abolition have, in many cases, had considerable experience of regulation in the large towns which still countenance regulation, or, after having permitted it for some years, have abandoned it Stockholm, Gothenburg, Norrköping, Christianstad, and Sundsvall still retain regulation, while Malmö, Helsingborg, Uppsala, Lund, Jönköping, Eskilstuna, and Falun have abandoned it In Gothenburg, for example, the medical officer deputed to examine prostitutes, frankly states that he is unable to recommend the maintenance of regulation, whether it is made more stringent or more lenient The many objections to regulation are, he says, certainly not outweighed by the relatively slight sanitary advantages of this measure The sanitary authorities and the police of Malmö agree that the objections to regulation are so serious that abolition is practically inevitable Regulation, it appears, was introduced in Malmö towards the end of the "eighties" Early in 1905 the police ceased to register new prostitutes and early in 1908 the system was abolished, the vagrancy laws being applied in certain cases as a substitute These changes were followed by a marked reduction of prostitution in the streets, but it is not possible exactly to estimate the extent to which the application of the vagrancy laws to prostitutes was responsible for this reduction It is, however, certain that the vagrancy laws were far more effective and awe inspiring when applied as a substitute for regulation than when treated as subsidiary to regulation. It was found from a modified form of notification of venereal disease obtaining in Malmö that its incidence fluctuated much from year to year in the period 1892–1913, but that the abolition of regulation was followed by an appreciable fall in the incidence of this disease This fall may, it is admitted, have been due t other factors, but at any rate it shows that th abolition of regulation does not necessarily prom the spread of venereal disease, and that regulat as far as Malmö is concerned, is far from nece

OCCUPATIONAL INJURIES DUE TO RADIUM

IN the *Journal of the American Medical Asso tion* of Jan 1st Professor T Ordway, of Alb Medical College, has described the effects obs during a year's radium work at the Hunting Hospital Those who were applying radium in th treatment of patients noticed after a few wee a slight though gradually increasing sensory d turbance in the finger tips, particularly on the uln side of the first phalanx of the thumb and th radial side of the terminal phalanges of the in and middle fingers of each hand These sympto began insidiously and consisted of blunting o sensibility of the finger tips, increased sensitiven to heat and pressure, amounting at times to pa and anæsthesia of varying degrees They were o of proportion to the objective changes, which co sisted of flattening of the natural ridges on th affected fingers with consequent changes in th finger prints, thickening of the horny layer of th epidermis with scaling, failure of the finger tips t resume their normal shape after pressure, a sort o pitting and upgrowth of the cuticle at the base o and underneath the nails, which became extrem brittle and tended to stand off from the finger The assistants and nurses were warned of th dangers and told not to handle the emanatio tubes with the fingers but to use forceps Bu some handling is unavoidable For example, a medical practitioner began making routine appli cations of radium early in November, 1913 The increased in number until the latter part o January, 1914, after which they were few Afte some weeks the tips of the thumbs, particular towards the ulnar side, and of the fore and middle fingers, especially towards the radial side, grad ally became numb and deficient in sensibilit There was greatly increased sensitiveness to hea paræsthesia in the form of a peculiar feeling in the finger tips, and awkwardness in delicate manipula tions Small objects were frequently dropped an there was difficulty in taking pulses The affected portion of the fingers became smooth and shiny an the ridges almost obliterated Later the epidermis became thickened, dry, and parchment like, and o pressure the finger tips remained indented fo some seconds The thickened horny layer became wrinkled and cracked and desquamated The nails stood off from the flesh of the fingers and there was a tendency to the upgrowth of tissue beneath the nail At present, although the patient has handled radium for therapeutic application only occasionally for almost a year, the dryness part anæsthesia and slight tenderness of the finger tip persist Changes in the blood of radium workers have been described by Gudzent and Halberstaedt —relative and absolute increase of lymphocytes an relative and absolute decrease in neutrophile These were also observed by Professor Ord Various general symptoms, such as headach malaise weakness unusual need of sleep irrita bility, and disorders of menstruation, have b described, but it is doubtful whether they are d to the radium or to other causes, such as clo confinement and tiring routine To preve these effects Professor Ordway advises that in th application of radium there should be a rotation of the staff, and affected persons should at least temporarily abandon the work. Protection should be given as far as possible by screens in the form of boxes or plates about the radium. The operating rooms should be well ventilated, particularly if any radium emanation is present.

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IT is the intention of the Queen to unveil the memorial to Florence Nightingale in the crypt of St Paul's Cathedral on Monday next, Feb 14th The memorial has been erected by the sculptor, Mr Arthur G Walker

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Professor Arthur Keith is giving a course of lectures on *the Anatomy of the Human Body* for first aid and ambulance students in the theatre of the Royal College of Surgeons, Lincoln's Inn fields, at 5 30 P M, on Mondays, Wednesdays, and Fridays, from Feb 14th to May 5th. Illustrative anatomical specimens will be on exhibition in the theatre from 4–7 P M on each lecture day, and from 10 A.M to 5 P M on the succeeding day in the hall of the museum

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AT the Section of Odontology of the Royal Society of Medicine a debate will be held on Monday Feb 28th, at 5 30 P M, to discuss War Injuries of the Jaws An exhibition of dental splints and other apparatus illustrating the subject will be open from Tuesday, Feb 22nd, to Monday, Feb 28th, between 11 and 6 30 Anyone wishing to exhibit is asked to communicate with the honorary secretary by the 14th instant Members of the Section of Surgery are specially invited to the debate

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

The Midwives (Scotland) Act, 1915 The Central Midwives Board for Scotland

THE Central Midwives Board for Scotland has been provisionally constituted as follows the appointing body being added to the names in brackets Sir Archibald Buchan Hepburn (Association of County Councils for Scotland), Sir Robert Kirk Inches (Convention of the Royal Burghs of Scotland), The Lady Susan Gordon Gilmour (Queen Victoria Jubilee Institute for Nurses Scottish Branch), Dr Archibald Campbell Munro (Society of Medical Officers of Health of Scotland), Professor Sir John Halliday Croom (University Courts of the Universities of Edinburgh and St Andrews, conjointly), Professor Murdoch Cameron (University Courts of the Universities of Glasgow and Aberdeen, conjointly), Dr James Haig Ferguson (Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, and Royal Faculty of Physicians and Surgeons of Glasgow, conjointly) and Dr Michael Dewar and Dr John Wishart Kerr (Scottish Committee of British Medical Association) The Lord President of the Council can nominate three members of the Board, but as yet has appointed only Lady Balfour of Burleigh

The Local Government Board of Scotland has issued a circular to the local authorities calling their attention to those provisions of the Midwives (Scotland) Act which directly affect them The circular gives a summary of the local authority's duties of superintendence and supervision under sections 16 and 17, and points out that it may delegate its powers and duties to a committee, it also calls attention to the obligation likely to be laid upon such authorities to contribute to the general expenses of the Central Midwives Board when the fees payable by candidates for registration prove insufficient for the purpose One of the provisions of immediate interest to which attention is directed is that by which local supervising authorities are authorised to contribute towards the training of midwives within or without their respective areas in such manner and to such extent as may be approved by the Local Government Board

Edinburgh University Court

At a recent court of Edinburgh University, on the recommendation of the Senatus, it was resolved that students who had attested and had been accepted for military service, and who had completed five terms of study of anatomy, should be permitted to appear for the professional examination in anatomy in March next It was resolved also that, for the present year, students who commenced medical study in winter, and who are now in their third year, should be allowed to appear for examination in March next, instead of in the following July It was intimated that the sum of £237 has been received from the Scottish Association for the Medical Education of Women for the purpose of founding a prize for women medical students The precise conditions of award will be announced later The following additional examiners were appointed Dr George Pr Yule, Medical Officer of Health, Fifeshire (Public Health Laboratory Work) Professor H R Dea Victoria University of Manchester (Pathology) Dr W G Aitchison Robertson (Forensic Medicine) Dr Charles Porter Medical Officer of Health

Marylebone (Public Health, &c), and Dr George F Barbour Simpson (Midwifery)

Edinburgh Insurance Committee

At a meeting of the Administration Subcommittee of the Edinburgh Insurance Committee the clerk submitted a statement of payments to doctors and chemists during the year 1915 The payments to doctors amounted to £25,448 10s 8d, as against £30,802 3s 2d during 1914 The payments for the year 1915 were by way of an advance at the rate of 1s 4d per person on each doctor s list, pending an adjustment of the lists as regards persons who have joined H.M Forces and are no longer entitled to medical benefit The payments to chemists for supply of drugs medicines &c, during 1915 amounted to £5823 14s 5½d, as against £6898 2s 6d for 1914 The amounts paid for October, November, and December, 1915, represent 90 per cent of amounts claimed, 10 per cent having been retained pending a complete check of the prescription forms for these months The list of doctors under agreement with the Edinburgh Insurance Committee as revised in January numbers 119 There are 108 chemists and dealers in appliances and half a dozen dealers in prescribed appliances only

The Royal Public Dispensary, Edinburgh

The annual meeting in connexion with the Royal Public Dispensary of Edinburgh was held in the City Chambers on Jan 29th, Lord Provost Sir Robert Inches presiding Mr R C Gray, S S C, the honorary secretary, submitted the annual report of the managers, which stated that the past year was the 139th of the history of the dispensary, and that even in the special and trying conditions the institution continued to do much good work among the suffering poor and to maintain its place among the charities of the city The dispensary provided advice, medicines, and surgical appliances and assistance all free of charge, and the number who had been relieved during the past year is 3241, those who had been attended at their own homes 1420 The operation of the Insurance Act, as was to be expected, had affected the number of adult working men who applied to the institution but another cause of the diminution of the numbers was the impossibility of maintaining the normal attendance of the medical staff at the present time Six out of the eight ordinary physicians are absent on active service The managers felt that special acknowledgment was due to Dr J G Cattanach and Dr G D Mathewson and also to Dr A B Darling who, with the assistance of medical students, had done their utmost to give attention and care to the patients

Medical Service for Highlands and Islands

In a large number of northern parishes medical practitioners have concluded agreements with the Highlands and Islands Medical Service Board, under which they will give medical attendance to the families and dependants of insured persons, uninsured persons of the crofter and cottar class with their families and dependants and others in similar circumstances who would find an ordinary fee for medical attendance too heavy for them The arrangement is that the doctors shall charge these persons a sum not exceeding 5s for first visit and 2s 6d for each succeeding visit in the same illness, the distance of the patient s house from the doctor s making no difference to the fee An additional moderate fee is chargeable when the practitioner supplies the medicine The midwifery fee including fees for subsequent visits if necessary, has been fixed at £1. The board has issued for use in the various districts under its jurisdiction notices which can be used as posters explanatory of its objects and scope Under the explanatory paragraphs, which are, of course, of general application, is printed a schedule giving the names of the medical men whose services are to be had in the particular district for which the notice is intended, together with the area within which they have agreed to give attendance

Feb 7th

IRELAND

(FROM OUR OWN CORRESPONDENTS)

The Gratitude of a Board of Guardians

SOME weeks ago the Enniscorthy guardians granted to Mr T J Kelly, one of their medical officers, on his retirement a superannuation allowance of £100 a year He had spent 38 years in their service Mr Kelly wrote to the Local Government Board, pointing out that he had not been granted the full allowance to which he considered himself entitled. The guardians, taking umbrage at his action, thereupon rescinded their previous resolution and fixed his retiring allowance at £50 per annum The decision was declaredly made, in the words of the guardian who moved the resolution, "to punish the doctor for writing to the Local Government Board" The incident is illustrative of the unfortunate position of the Poor-law medical officer as regards retiring allowance in that he is entirely dependent on the will of the guardians

A Medical Mayor

Mr J J O Sullivan, L.R C S Irel. has been elected Mayor of Waterford He has been for some time an alderman of that city, and has filled the office of High Sheriff. Mr O Sullivan is an active member of the Irish Medical Committee, and an examiner at the Apothecaries Hall

The Forster Green Hospital, Belfast

At the annual meeting of the friends of this hospital, held on Jan. 25th, it was reported that 237 patients were treated during the year 1915, as against 323 in 1914 On the other hand, the average period of treatment was 20 5 weeks as against 13 49 weeks in 1914 It is interesting to note that while the subscriptions were a few pounds down, the total amount in the household expenses (despite the increase of prices) was increased by only £120 upon an expenditure of £2500 It is proposed to pay off £672 of the building debt instead of £1000 One of the clerical speakers criticised the city corporation of Belfast for a very serious omission in their tuberculosis scheme in failing to provide for the inspection of schools, which, he said, in Belfast were 'hot beds of disease, and they would never get this scourge (consumption) under control until they adopted a system of school medical inspection. School medical inspection is, however, likely to be inadequately performed during the war

The Belfast Hospital for Sick Children

At the annual meeting of the supporters of this charity held on Jan. 27th, the report presented by the medical staff showed that 631 intern and 4034 extern cases were treated during 1915 The clinics are being largely attended by senior medical students The financial statement indicated that

es was investigated 12 of d a dysentery Widal, while

research are often difficult to estimate the significance of tely, neither Dr Ledingham on on the subject Are we to ffered by those attacked were yphosus or the B dysenteriæ mbined? The symptoms and y Dr Rees, do not suggest that ier typhoid fever or dysentery ion, more probable that the estion of the ordinary sewage be correct, the epidemic is a far to prove the fact, which is ge-polluted water may give rise the specific organism of enteric

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M REPORTS

Wakefield (Annual Report for the number of cases under treatment the average daily number resident e 338 direct admissions and 26 of patients discharged was 171, 7 36 per cent based on the direct 183 deaths, making a death rate of rage daily number resident. General ipal cause of death in 44 cases and J S Bolton, the medical super ter an experience of several years he t life is much more healthy and ified and partial out-door treatment the employment of permanent verandahs that the general use of inexpensive out-orms which enables meals to be provided the whole of the patients in the institution, tly improves the health and adds to the comfort es and staff, but also simplifies the administra dds to the general hygiene of the wards sylum the wards are little used during the part of the year except for sleeping purposes egard to the research work carried out in the gical laboratory Dr Bolton has recently completed a The Brain in Health and Disease," and has also in tion with Dr W Robinson, finished the systematic ation of the brain in a case of long standing per blindness in which central vision had been largely ed Dr H Devine during the year published papers o subjects—namely, the Clinical Significance of nic Symptoms and the Biological Significance of ns Dr Robinson published a paper on Some ul Cases of So-called General Paralysis of the and Mr H S Gettings and Dr Ethel Waldron published paper on the Detection of a Dysentery Carrier — Canley Hall 6 new cases of imbecile boys were ed during the year One of these, together with ases, was sent to the chronic block Of the 5 other ssions 2 attended school 2 were unfit and 1 was oung The number of boys on the school register was ith an average daily attendance of 26 The girls unately, continued to be scattered throughout the wards

ford County and City Lunatic Asylum (Annual Report Year ending March 31st 1915) —The total number of under treatment during the year was 603 the average number resident being 520 The total number of nts admitted for the year 1914 was 85, of whom 12 transferred from other asylums The prevalent forms ental disorder in the direct admissions were Mania 20, ncholia 8, dementia 11, delusional insanity 8, ptic insanity, 1, confusional states 5, imbecility, 14, r 4, general paralysis of the insane 2 Of the chief ative factors alcoholism was assigned in 9 cases syphilis nd neurotic and neuropathic heredity in 35 It is note thy in what a large percentage of cases in which accurate rmation had been obtained insane heredity and con ital mental defect were found to be the dominating factor termining the issue There has always been in residence a larger ratio of related patients in this asylum than in most county asylums The discharges numbered 26, with a recovery rate, calculated on the direct admissions, of 17 8 per cent There were 38 deaths, making a mortality of 7 3 per cent, based on the daily average number resident Senile decay was the cause of death in 13 cases, tuberculosis in 5, general paralysis of the insane in 1, and chronic Bright's disease in 7 A post-mortem examination was performed in 76 3 per cent of the cases

Govan District Asylum, Cardonald, Glasgow (Annual Report for the Year ending May 14th, 1915) —The total number of cases under treatment during the year was 935, the daily average number resident being 665 6 There were admitted in all 280 patients, and there were discharged 132, of whom 80 were recovered The percentage of recoveries to the total admissions was 28 5 One male patient was discharged recovered after having been under treatment for 19 years The deaths were at the rate of 16 3 per cent of the average daily number resident, and numbered 109 Of these 60 were due to diseases of the nervous system (including 26 due to general paralysis of the insane), 6 to heart disease, 8 to lung disease, 5 to abdominal disease, 6 to old age, and 22 to various general diseases Of the patients admitted 70 7 per cent. were in a weak state of health, and many were suffering from the terminal stage of bodily diseases Alcoholic excess was an important causative factor in 21 per cent of the men and 5 9 per cent. of the women General paralysis was present in 17 9 per cent of the men and 4 2 per cent of the women With regard to the influence of the war on the number of admissions the number admitted for the period of the war under review was less than for corresponding periods of previous years, and in no single case could it be said that the war played the principal rôle in the causation of the mental disorder

The Coppice Mental Hospital for the County and City of Nottingham (Annual Report for the Year 1914) —The total number of cases under treatment during the year was 128 of whom 7 were voluntary boarders The average daily number resident was 93 The admissions amounted to 28, which was the largest number for any year since 1899 Many applications for admission to the female side had to be refused, as there were no vacancies In addition to the 28 admissions 2 men and 5 women were admitted as voluntary boarders without certificates The chief forms of mental disorder in the admissions were as follows 7 suffered from forms of mania or mental exaltation, 4 from melancholia, 6 from confusional states, 6 from primary dementia, and 3 from general paralysis of the insane The prospects of recovery were regarded as fair in 14 of the admissions 25 per cent. of the cases admitted were ascertained to have a definite family history of insanity or other allied neurosis 20 patients were discharged, yielding the good percentage of 50 on the direct admissions The duration of the attack in the recovered cases varied from 2 to 14 months, and in 10 of the 11 the duration was less than 12 months There were 8 deaths, making a death rate of 8 59 per cent. of the average number resident The new shelter for open-air treatment proved very useful in acute cases, and gave most beneficial results in the subduing of excitement and the inducing of sleep and appetite

Waterford District Lunatic Asylum (Annual Report for the Year 1914) —The total number of cases under treatment during the year was 709 the daily average number resident being 642. The admissions numbered 67, and were 2 more than in 1913 which was the lowest number for 30 years The varieties of mental disease were as follows Mania, 30 cases, melancholia, 11, delusional insanity 10, congenital mental deficiency, 4, insanity with epilepsy, 1, insanity with gross brain lesion, 1, dementia, 6 Four persons were not insane on admission The principal causes of mental breakdown were in the following order of frequency Hereditary predisposition, 29 cases, mental stress or worry 18, alcoholic cases 11, mental deficiency 6 The discharges numbered 36—25 males and 11 females. Of these, 18 males and 6 females were recovered The recovery rate, calculated on the total number admitted, was 35 8 per cent, being 3 5 per cent more than the previous year There were 31 deaths 9 more than in 1913 The mortality rate calculated on the daily average number resident was 4 8 per cent This was 1 3 per cent more than in 1913 but was still much below the average death rate in the other Irish asylums—viz., 7 2 per cent

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 7301 births and 5098 deaths were registered during the week ended Saturday, Feb 5th The annual rate of mortality in these towns which had been 13 9, 14 2, and 14 0 per 1000 in the three preceding weeks, rose in the week under notice to 14 7 per 1000 of their aggregate population, estimated at 18,136,180 persons at the middle of the year 1914 During the first five weeks of the current quarter the mean annual death rate in these towns averaged 14 2, against a corresponding rate of 13 6 in London The annual death rate last week ranged from 3 4 in Ilford, 4 9 in Swindon 8 2 in Hornsey, in East Ham, and in Newport (Mon), 8 6 in Northampton, and 9 1 in Bournemouth, to 20 6 in Liverpool, 20 8 in Burnley, 21 1 in South Shields, 22 2 in Dewsbury, and 24 3 in West Hartlepool

The 5098 deaths from all causes were 238 in excess of the number in the previous week, and included 340 which were referred to the principal epidemic diseases, against 305 and 314 in the two preceding weeks Of these 340 deaths, 104 resulted from whooping-cough, 70 from infantile diarrhœal diseases, 63 from diphtheria 62 from measles, 28 from scarlet fever 12 from enteric fever, and 1 from small pox The death rate from these diseases was equal to 1·0, against 0 9 per 1000 in each of the two preceding weeks The deaths attributed to whooping cough which had been 78, 74, and 80 in the three preceding weeks, further rose to 104, and included 28 in London, 10 in Liverpool, 9 in Birmingham, 5 each in Leicester and Manchester, and 4 each in West Ham, Coventry and Leeds The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 60, 60, and 68 in the three preceding weeks, further rose to 70, of which 17 were recorded in London, 4 each in Birmingham and Sheffield and 3 each in Stoke-on Trent, Leeds, and Liverpool The fatal cases of diphtheria, which had been 84, 79 and 70 in the three preceding weeks, further fell to 63, 16 deaths were registered in London 4 each in Portsmouth, Plymouth, and Liverpool, and 3 each in Bristol, Stoke-on Trent, Birmingham, and St Helens The deaths attributed to measles, which had declined from 81 to 62 in the four preceding weeks, were again 62 last week, and included 8 in London, 6 each in Nottingham, Stockport, and Burnley, and 5 each in Bristol, Leicester and Leeds The deaths referred to scarlet fever, which had been 23 10, and 25 in the three preceding weeks, rose to 28, of which 7 occurred in London, 4 in Stoke-on Trent, and 2 each in Manchester, Sheffield and Newcastle-on Tyne The fatal cases of enteric fever which had been 9 in each of the three preceding weeks, rose to 12, and included 3 in Wigan and 2 in Reading The death from small pox was registered in Salford

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2224, 2257, and 2189 at the end of the three preceding weeks, further fell to 2153 on Saturday last, 253 new cases were admitted during the week, against 244 286 and 260 in the three preceding weeks These hospitals also contained on Saturday last 1557 cases of diphtheria 143 of whooping-cough, 48 of enteric fever and 47 of measles, but not one from small pox The 1206 deaths from all causes in London were 4 in excess of the number in the previous week, and corresponded to an annual death rate of 13 9 per 1000 The deaths referred to diseases of the respiratory system, which had been 264, 254, and 231 in the three preceding weeks, fell to 225 in the week under notice and were 272 below the number registered in the corresponding week of last year

Of the 5098 deaths from all causes in the 96 towns, 191 resulted from violence and 377 were the subject of coroners' inquests while 1415 occurred in public institutions The causes of 58 or 1 1 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Leeds, Bristol West Ham Bradford, Hull, Newcastle-on Tyne, and in 67 other smaller towns Of the 58 uncertified causes, 13 were registered in Liverpool, 10 in Birmingham 3 each in Gateshead and London, and 2 each in 10 other towns

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2 355 300 persons at the middle of this year, 1034 births and 606 deaths were registered during the week ended Saturday, Feb 5th The annual rate of mortality in these towns which had been 15 4 14 4 and 14 6 per 1000 in the three preceding weeks fell to 13 4 per 1000 in the week under notice During the first five weeks of the current quarter the mean annual death rate in these towns averaged 14 7, against a corresponding rate of 14 2 per 1000 in the large English towns Among the several towns the death rate last week ranged from 2 3 in Clydebank, 9 9 in Motherwell, and 11 4 in Edinburgh, to 19·4 in Paisley, 20 1 in Greenock, and 21 5 in Perth

The 606 deaths from all causes were 52 fewer than the number in the previous week, and included 50 which were referred to the principal epidemic diseases, against 43 and 59 in the two preceding weeks Of these 50 deaths, 22 resulted from measles, 14 from diphtheria, 7 from scarlet fever, 6 from infantile diarrhœal diseases, and 1 from enteric fever, but not one from whooping-cough or from small pox The annual death rate from these diseases was equal to 1 1, against a corresponding rate of 1 0 per 1000 in the large English towns The deaths attributed to measles which had been 23, 19, and 29 in the three preceding weeks, fell to 22, and included 6 in Greenock, 5 in Glasgow, 4 in Coatbridge, and 2 each in Edinburgh and Ayr The deaths referred to diphtheria which had been 13, 8, and 15 in the three preceding weeks, were 14 last week, of which 5 occurred in Glasgow and 4 in Edinburgh The fatal cases of scarlet fever, which had declined from 18 to 7 in the four preceding weeks, were again 7 last week and included 5 in Glasgow The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 13, 4, and 13 in the three preceding weeks, fell to 6, of which 2 occurred in Glasgow The fatal case of enteric fever was recorded in Dundee

The deaths referred to diseases of the respiratory system, which had been 114, 92, and 97 in the three preceding weeks, fell to 73 in the week under notice, and were 229 below the number registered in the corresponding week of last year The deaths from violence numbered 23, against 37 and 23 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 19 town districts of Ireland, with populations exceeding 10,000 persons at the last Census, 530 births and 388 deaths were registered during the week ended Saturday, Jan 29th The annual rate of mortality in these towns, which had been 21 0, 17 4, and 17 9 per 1000 in the three preceding weeks fell in the week under notice to 17 6 per 1000 of their aggregate population estimated at 1,148,468 persons at the middle of last year During the first four weeks of the current quarter the mean annual death rate in these town averaged 18 5, against corresponding rates of 14 1 and 15 1 per 1000 in the English and Scotch towns respectively The death rate during the week under review was equal to 19 5 in Dublin (against 13 9 in London and 14 4 in Glasgow), 15 0 in Belfast, 27 2 in Cork, 13 9 in Londonderry, 17 6 in Limerick, and 11 4 in Waterford while in the 13 smaller towns the mean rate was 16 7 per 1000

The 388 deaths from all causes were 7 fewer than the number in the previous week, and included 27 which were referred to the principal epidemic diseases, against 30 and 32 in the two preceding weeks Of these 27 deaths, 8 resulted from infantile diarrhœal diseases, 7 from whooping-cough, 6 from measles, 4 from enteric fever, and 2 from diphtheria, but not one from scarlet fever or from small pox The annual death rate from these diseases was equal to 1 2 against corresponding rates of 0 9 and 1 5 per 1000 in the English and Scotch towns respectively The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 8, 6, and 8 in the three preceding weeks were again 8 in the week under notice, and included 6 in Dublin The deaths attributed to whooping-cough, which had been 4, 5, and 8 in the three preceding weeks, numbered 7, of which 3 were recorded in Belfast and 2 in Portadown The fatal cases of measles, which had been 9 14, and 9 in the three preceding weeks fell to 6 and included 3 in Belfast Of the 4 deaths from enteric fever, 3 were registered in Cork and 1 in Dublin, while those from diphtheria occurred in Dublin and Belfast

The deaths referred to diseases of the respiratory system, which had declined from 147 to 63 in the four preceding weeks, were again 63 in the week under notice, and were 96 below the number registered in the corresponding week of last year Of the 388 deaths from all causes, 132, or 34 per cent occurred in public institutions and 8 resulted from violence The causes of 19 or 4·9 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 7 in Dublin and 3 in Limerick In the large English towns the proportion of uncertified causes did not exceed 0·9 per cent

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UNIVERSITY OF SHEFFIELD - The Council, at its meeting on Feb 7th appointed Dr Arthur J Hall senior physician to the Sheffield Royal Hospital, to the Professorship of Medicine, in succession to Dr Duncan Burgess

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments have been notified — Surgeons K. H Hale to the *Maidstone*, and L B Stringer (temp) to the *Victory*, for Haslar Hospital Temporary Surgeons T Beaton to the *Pembroke*, additional for Chatham Hospital, H S Sington to the *Pembroke* C E Kindersley to the *Victory*, F L Cassidi to the *Vivid*, all additional for Chatham, Haslar, and Plymouth Hospitals, respectively, and H E Hewat to the *Euryal*

ARMY MEDICAL SERVICE

Lieutenant-Colonel C W Profeit to be temporary Colonel whilst an Assistant Director of Medical Services

ROYAL ARMY MEDICAL CORPS

The undermentioned Majors are retained on the Active List and to be supernumerary E E Powell and W A S J Graham

The undermentioned temporary Captains relinquish their commissions E L Middleton, J Ewing, and H Munro

The undermentioned to be temporary Captains Captain B G Elliott, The East Lancashire Regiment, Territorial Force, Captain J M D Scott, South African Medical Corps, Temporary Lieutenant R B Taylor, Temporary Captain S J Scott, from Princess Victoria's (Royal Irish Fusiliers) G Graham, L F Jones, C A.M C, and J A Hunt, C A.M C,

The undermentioned temporary Lieutenants to be temporary Captains —J D Finlay, W Winslow, A C D Firth, C H. Philips, T J Kelly, C J H Sharp, C F O White, E S Dixon, W Pritchard Airey, J Morrison, J C Dunn, W C S Wood, D Watson, G A Maling, V C L A. P Burt, S R Mackenzie, A Ryland C J Glasson, H W Doll, J Tate, W A Taylor, A W H Donaldson, J F Venables, E B Sunderland, C W Roe, F C Greig, J P Blockley, D W Beamish, W Leslie, J Parker, C C Beatty W A Brown, R H Fothergill D M MacManus, U J Bourke, H N Everard, H. S de Boer G A C Gordon, D Green, C Banting, R W Murphy, W G Ridgway, R A Wright, B M Collard, T J R Maguire, B H Barton, G F Barr, P H MacDonald, C L Wigan, J C Robb, W S Heron, R MacGrath, C N Vaisey L A. Drake H J Cotter, T S Goodwin, J S Prentice, W J A B Wishart, W S Lindsay, G Davidson, G T Cregan, H S Stockton, C de C Pellier, and J R Lee

Temporary Honorary Lieutenant O G Morgan to be temporary Honorary Captain whilst serving with No 9 British Red Cross (Duchess of Sutherland's) Hospital

Lieutenant M W Paterson to be Captain

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants —E J Clark, W J Pearson, and C F Maclachlan

The undermentioned to be temporary Lieutenants — The undermentioned to be temporary Lieutenants — W H Broughton, M Campbell, W Paul, C Cooper, W H Broughton, M Campbell, W Paul, C Cooper, R A. Warters, G FitzGerald A. D Moffat, J J W Speedy, R A. Warters, G FitzGerald A. D Moffat, J J W Speedy, R E Illingworth, A. D Hunt, D R Taylor, A W Clarke, R E Illingworth, A. D Hunt, D R Taylor, A W Clarke, E L Christoffelsz Mather, A C Tait, C W C Robinson, N A. Boswell, W D D J G M Molony, A D Buchanan, R Montgomery, L T Small, R M Hewitt J P Fairley, C S Rivington, W M Giles, H C Fox, E W Martin, W B Mercer, R R Muirhead, E H Cameron J Bain, F W Craig, Watts, C M G Elliott, N Grace, S Stockman, F J Eagar, P G J Oag, A McL Pilcher, H N Ingham, A H Donaldson and J McF Temple, J F St J Annesley, Grier

The undermentioned to be Honorary Lieutenants — W R White-Cooper and H W Bennett

The undermentioned temporary Lieutenants relinquish their commissions —C A Smallhorn H W Fankhausen S Reader, J N G W McMorris, F L Gill P Steele F J Browne, A E Townley, H F Smith, W M Thomas A. F G Codd, H Armstrong G De P D'Amico, R N Geach, G O Jacobsen, M P Thomas, G M De Vines and J R McGilvray

INDIAN MEDICAL SERVICE

Temporary Lieutenant J McIntire Falkiner to be temporary Captain

A. C Dutt, R N Kapadia, N B Aich S C Sen, P R Vakil, and B Rai have been granted the temporary rank of Lieutenant

The King has approved the retirement of Lieutenant Colonels W R Clark G S Thomson and C G Webster and Majors W G Richards and W C Long

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

The undermentioned Lieutenants to be Captains W J Dowling A R F Clarke A J Horne N L Reis C E H Gater D C Pim F R S Shaw R G Blair F R H Mollan G Stanton J D Proud T W E Elliott J O S Beveridge, A J Beveridge S D Lodge C H Brennan

E N H Gray, J A Musgrave, T McClurkin, T R S Cumming, D H Murray, W A Thompson, J W B Foley, D Dempster, and T N Barkley

Lieutenant (on probation) T E B Beatty is confirm his rank

Cadet W L A. Harrison, London University Contin O T C, to be Lieutenant

TERRITORIAL FORCE

Army Medical Services

Captain A Baxter, from Attached to Units other th Medical Units, to be Deputy Assistant Director of Me Services, Mounted Division

J Ewing (late Captain, West Riding Field Ambula and late temporary Captain, R A M C) to be Captain Deputy Assistant Director of Medical Services

Royal Army Medical Corps

Welsh Border Mounted Brigade Field Ambulance J B Yeoman, from Army Medical Services to be Major

Highland Field Ambulance Lieutenant J A Sellar to Captain

South Midland Field Ambulance Lieutenant E J Groves is restored to the establishment

London General Hospital J A Willett to be L tenant

Southern General Hospital Lieutenants C B Hawth and J Millard to be Captains

West Lancashire Casualty Clearing Station Lieut T Aspinall to be Captain

North Midland Casualty Clearing Station N H Hill to Lieutenant

Yorkshire Mounted Brigade Field Ambulance L tenant A M Deane to be Captain

West Lancashire Field Ambulance Captain E W from Attached to Units other than Medical Units to Captain

London (City of London) Sanitary Company To be L tenants J Teare and F E W Rogers

London Sanitary Company To be Lieutenants S Summ son and E P Wheeler

Attached to Units other than Medical Units —Majo Beard resigns his commission on account of ill he Lieutenants S Hughes and F J Davidson to be Captain

DEATHS IN THE SERVICES

Lieutenant-Colonel Thomas Michael O'Brien A (retired), recently at his residence in Exeter He joined Army Medical Service in 1858, and shortly afterwards to India, and, except for two short periods of time, rema in India until 1887 In 1888 he was appointed chief me officer of the Exeter military hospitals He retired in but still continued to reside in Exeter, where he numerous friends and was highly respected and esteem He leaves a widow and married daughter

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS

First place is given in the January issue of this journ a long and excellently illustrated article by Surgeon Gen Sir George Makins on a Study of 111 Cases of Perfora Wounds of the Gastro-intestinal Canal which occur amongst a consecutive series of 202 perforating wound the abdomen in which the presence of visceral injury certain The Toxicity of Emetine is the title of a joint p by Temporary Lieutenant Colonel Andrew Balfour and Frank Lee Pyman, D Sc, Ph D, in which the c clusion is drawn that more information on the subj is required and the hope is expressed that medical offic serving with the Mediterranean Expeditionary Force have administered emetine in cases of amoebic dysent will not hesitate to place their experiences on rec Captain A. W Ormond R A M C (T), and Major A F He describe the treatment of "Concussion Blindness hypnosis good results having been obtained and Cap T H Just contributes a survey of the results obtained dur six months of enteric bacteriology at a general hospital a paper on a Classification of Meningococci Based on Gr Agglutination obtained with Monovalent Immune Lab Sera Captain A W M Ellis suggests that in the treatme cerebro-spinal fever better results might be obtained an exact knowledge of the adequacy of serum tre gained, if monovalent horse serum of appropriate type employed in place of the polyvalent sera Meningo Carriers are discussed in a joint paper by Cap Colebrook and Lieutenant H H Tanner while Medium for the Identification of the Meningococci Sugar Reactions forms the subject of a report to the Me Research Committee by Mr H W C Vines B A

THE RUSSIAN ORDER OF ST ANNE

Temporary Surgeon Thomas S ratford has received the Royal Licence and Third Class of the Order of St Anne with swords been conferred upon him by the Emperor of Russia nition of valuable services rendered

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census 7301 births and 5098 deaths were registered during the week ended Saturday, Feb 5th The annual rate of mortality in these towns which had been 13·9, 14 2, and 14·0 per 1000 in the three preceding weeks, rose in the week under notice to 14 7 per 1000 of their aggregate population, estimated at 18,136,180 persons at the middle of the year 1914 During the first five weeks of the current quarter the mean annual death rate in these towns averaged 14 2, against a corresponding rate of 13 6 in London The annual death rate last week ranged from 3 4 in Ilford, 4·9 in Swindon 8 2 in Hornsey, in East Ham, and in Newport (Mon), 8·6 in Northampton, and 9 1 in Bournemouth to 20 6 in Liverpool 20 8 in Burnley, 21 1 in South Shields, 22 2 in Dewsbury, and 24 3 in West Hartlepool

The 5098 deaths from all causes were 238 in excess of the number in the previous week and included 340 which were referred to the principal epidemic diseases, against 305 and 314 in the two preceding weeks Of these 340 deaths, 104 resulted from whooping-cough 70 from infantile diarrhœal diseases, 63 from diphtheria 62 from measles, 28 from scarlet fever 12 from enteric fever, and 1 from small pox. The death rate from these diseases was equal to 1·0, against 0 9 per 1000 in each of the two preceding weeks The deaths attributed to whooping cough which had been 78, 74, and 80 in the three preceding weeks, further rose to 104, and included 28 in London, 10 in Liverpool, 9 in Birmingham, 5 each in Leicester and Manchester, and 4 each in West Ham, Coventry and Leeds. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 60, 60 and 68 in the three preceding weeks, further rose to 70, of which 17 were recorded in London, 4 each in Birmingham and Sheffield and 3 each in Stoke-on Trent, Leeds and Liverpool The fatal cases of diphtheria which had been 84, 79 and 70 in the three preceding weeks, further fell to 63, 16 deaths were registered in London, 4 each in Portsmouth, Plymouth and Liverpool, and 3 each in Bristol, Stoke-on Trent Birmingham and St Helens The deaths attributed to measles, which had declined from 81 to 62 in the four preceding weeks, were again 62 last week and included 8 in London, 6 each in Nottingham, Stockport, and Burnley, and 5 each in Bristol, Leicester, and Leeds The deaths referred to scarlet fever, which had been 23 10 and 25 in the three preceding weeks, rose to 28, of which 7 occurred in London, 4 in Stoke-on Trent and 2 each in Manchester Sheffield and Newcastle-on Tyne The fatal cases of enteric fever which had been 9 in each of the three preceding weeks rose to 12 and included 3 in Wigan and 2 in Reading The death from small pox was registered in Salford

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2224, 2257, and 2189 at the end of the three preceding weeks, further fell to 2153 on Saturday last, 253 new cases were admitted during the week against 244, 286 and 260 in the three preceding weeks These hospitals also contained on Saturday last 1557 cases of diphtheria 143 of whooping-cough, 48 of enteric fever and 47 of measles, but not one from small pox The 1206 deaths from all causes in London were 4 in excess of the number in the previous week, and corresponded to an annual death rate of 13·9 per 1000 The deaths referred to diseases of the respiratory system, which had been 264 254, and 231 in the three preceding weeks, fell to 225 in the week under notice, and were 272 below the number registered in the corresponding week of last year

Of the 5093 deaths from all causes in the 96 towns, 191 resulted from violence and 377 were the subject of coroners' inquests while 1415 occurred in public institutions The causes of 58, or 1 1 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Leeds Bristol West Ham Bradford Hull, Newcastle-on Tyne and in 67 other smaller towns Of the 58 uncertified causes 13 were registered in Liverpool 10 in Birmingham 3 each in Gateshead and London and 2 each in 10 other towns

HEALTH OF SCOTCH TOWNS

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The 606 deaths from all causes were 52 fewer than the number in the previous week and included 50 which were referred to the principal epidemic diseases, against 43 and 59 in the two preceding weeks Of these 50 deaths, 22 resulted from measles 14 from diphtheria, 7 from scarlet fever, 6 from infantile diarrhœal diseases, and 1 from enteric fever, but not one from whooping-cough or from small pox. The annual death rate from these diseases was equal to 1 1, against a corresponding rate of 1·0 per 1000 in the large English towns The deaths attributed to measles which had been 23 19, and 29 in the three preceding weeks, fell to 22 and included 6 in Greenock, 5 in Glasgow, 4 in Coatbridge, and 2 each in Edinburgh and Ayr The deaths referred to diphtheria which had been 13, 8, and 15 in the three preceding weeks, were 14 last week, of which 5 occurred in Glasgow and 4 in Edinburgh The fatal cases of scarlet fever, which had declined from 18 to 7 in the four preceding weeks, were again 7 last week, and included 5 in Glasgow The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 13, 4, and 13 in the three preceding weeks, fell to 6 of which 2 occurred in Glasgow The fatal case of enteric fever was recorded in Dundee

The deaths referred to diseases of the respiratory system, which had been 114, 92, and 97 in the three preceding weeks, fell to 73 in the week under notice, and were 229 below the number registered in the corresponding week of last year The deaths from violence numbered 23, against 37 and 23 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 19 town districts of Ireland, with populations exceeding 10 000 persons at the last Census, 530 births and 388 deaths were registered during the week ended Saturday, Jan 29th The annual rate of mortality in these towns, which had been 21·0, 17 4, and 17 9 per 1000 in the three preceding weeks fell in the week under notice to 17 6 per 1000 of their aggregate population estimated at 1,148,468 persons at the middle of last year During the first four weeks of the current quarter the mean annual death rate in these town averaged 18 5, against corresponding rates of 14 1 and 15 1 per 1000 in the English and Scotch towns respectively The death-rate during the week under review was equal to 19 5 in Dublin (against 13·9 in London and 14 4 in Glasgow), 15·0 in Belfast, 27 2 in Cork, 13 9 in Londonderry, 17 6 in Limerick, and 11 4 in Waterford while in the 13 smaller towns the mean rate was 16 7 per 1000

The 388 deaths from all causes were 7 fewer than the number in the previous week, and included 27 which were referred to the principal epidemic diseases, against 30 and 32 in the two preceding weeks Of these 27 deaths, 8 resulted from infantile diarrhœal diseases, 7 from whooping-cough, 6 from measles, 4 from enteric fever, and 2 from diphtheria, but not one from scarlet fever or from small pox. The annual death rate from these diseases was equal to 1 2 against corresponding rates of 0·9 and 1 5 per 1000 in the English and Scotch towns respectively The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 8, 6 and 8 in the three preceding weeks, were again 8 in the week under notice, and included 6 in Dublin The deaths attributed to whooping-cough, which had been 4 5 and 8 in the three preceding weeks numbered 7, of which 3 were recorded in Belfast and 2 in Portadown The fatal cases of measles which had been 9 14, and 9 in the three preceding weeks fell to 6 and included 3 in Belfast Of the 4 deaths from enteric fever, 3 were registered in Cork and 1 in Dublin while those from diphtheria occurred in Dublin and Belfast

The deaths referred to diseases of the respiratory system which had declined from 147 to 63 in the four preceding weeks, were again 63 in the week under notice, and were 96 below the number registered in the corresponding week of last year Of the 388 deaths from all causes, 132 or 34 per cent, occurred in public institutions and 8 resulted from violence The causes of 19 or 4·9 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest and included 7 in Dublin and 3 in Limerick, in the large English towns the proportion of uncertified causes did not exceed 0·9 per cent

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Correspondence.

"Audi alteram partem"

ALBUMINURIC RETINITIS IN EPIDEMIC (ACUTE) NEPHRITIS

To the Editor of THE LANCET

SIR,—The war has raised many problems, some new, others old but brought into fresh prominence Among these is that of acute nephritis It might have been expected that acute nephritis would be common among those who had passed through the cold exposure of trench life, yet the war has conclusively shown that cold and exposure as such are at the most contributory causes only The outbreak in the warm weather, when the winter was past, was so extensive that it deserved the name of epidemic nephritis given to it, though investigation has so far failed to track the cause down to any recognisable infection or germ The study of a series of these cases at St Bartholomew's Hospital has led to most interesting results in the capable hands of Dr W Langdon Brown and his co workers

One special branch of the subject has recently been dealt with in this journal[1] by Mr R Foster Moore, in an article entitled "Renal Retinitis in Epidemic Nephritis" The paper is a valuable one, but its value would have been greater if Mr Foster Moore had carefully defined what he meant by chronic nephritis and by renal retinitis

Chronic nephritis—Acute nephritis if it lasts some time leads to the large white kidney which is commonly called *chronic parenchymatous nephritis*, and in this condition may persist for months[2] Whether it ever passes into the contracted form or not is a question which need not be discussed here The *contracted-form* certainly in the vast majority of cases gives no history of acute nephritis, and is probably essentially a degenerative and not a post inflammatory condition. Bright in his original papers distinguished sharply between the two forms, and stated that he was unable to satisfy himself that there was any connexion between them Wilks, with all his experience, said that he had failed to establish any relation between them, and held them to be different diseases My own experience has led me to the same conclusion Proof must depend upon clinical evidence and this is lacking Chronic nephritis is often used to cover both the groups, and confuses two conditions which are essentially distinct—viz., parenchymatous nephritis of some duration, i e, in its later stages, and granular kidney

Albuminuric retinitis—This also exists in two forms which ought to be sharply distinguished from one another I named them some years ago the exsudative and the degenerative form They are quite distinct from one another in their ophthalmoscopic appearances, in their pathology, as well as in their clinical significance

The *exsudative form* is the same as that usually understood by the term acute optic neuritis, and is like that seen with a cerebral tumour It may occur in acute or chronic parenchymatous nephritis, and may then resolve and disappear if the nephritis recover It may also occur in granular kidney, when it is most unlikely to resolve because it is rarely if ever seen, except in the terminal stage and when the end is near

The *degenerative form* presents the glistening white patches round about the yellow spot especially, which are so characteristic of albuminuric retinitis It is pathognomonic of granular kidney, for it occurs in no other disease It is the result of permanent degenerative changes in the retina and never disappears It may in the later stages of granular kidney have grafted on it, or added to it, the exsudative form but the two forms are even then independent of one another

The statements made about albuminuric retinitis in books are hopelessly contradictory, and this is not surprising, for with two forms of chronic nephritis distinct from one another and two forms of albuminuric retinitis also distinct from another there is plenty of room for divergence or contradiction if the distinctions are not made and not clearly observed

When equally competent observers contradict one another on questions of fact it must follow either that they are dealing not with the same but with different facts, or that the facts are not simple but complex and coloured by different theories, or that the same words are used to denote different things The two terms which lead to all this confusion are chronic nephritis and albuminuric retinitis If these are properly defined and the distinctions strictly observed all the apparent contradictions can be reconciled.

It is now possible to put Mr Foster Moore's observations into the category to which they rightly belong It is clear 1 That all the cases he deals with are acute nephritis Even what he calls chronic nephritis is merely acute nephritis which has lasted somewhat longer than the others, and the pathological condition is that of chronic parenchymatous nephritis or the large white kidney 2 That the form of albuminuric retinitis met with in his cases is of the exsudative type

Thus defined Mr Foster Moore's paper has a greater value than he claims for it It shows first that albuminuric retinitis in one of its forms occurs in acute nephritis, on which he expressed a somewhat uncertain opinion There can be no doubt of the fact, in spite of the statement he quotes on Sir Wilmot Herringham's authority I have seen many instances of it myself, and recorded some in my Lettsomian lectures as long ago as 1900 Not only does it occur, but it is not altogether uncommon Mr Foster Moore met with it in 4 2 per cent of the 119 cases he observed It is most likely to be met with in cases of some standing—eight or nine weeks he seems to regard as making the disease chronic, but such a duration is really short for many cases of acute nephritis which get perfectly well last as long as this and much longer, too Nor is mere duration of itself sufficient, for albuminuric retinitis may remain absent in cases of much longer duration He refers himself to one of 20 weeks duration Three out of the five cases he quotes were severe, for they had uræmia

To sum up the facts as my experience leads me to do, I should say 1 Albuminuric retinitis may occur and is not rare in acute nephritis 2 It is of the exsudative type 3 It is an indication of the severity of the case, and though more likely to be found in cases of some duration it may be present quite early if the case be severe or remain absent throughout if the case be mild 4 In any case, if the nephritis resolve it may completely disappear and leave no defect of vision behind 5 The statement that it is toxic in origin is probably correct

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[1] THE LANCET Dec 18th 1915 p 1332.
[2] THE LANCET Nov 20th 1915 p 1123.

Mr Foster Moore's observations are a distinct contribution to the subject, and so far as acute nephritis is concerned confirm the views I expressed definitely in my Lettsomian lectures of 1900

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SAMUEL WEST, M D Oxon , F.R C P Lond

Wimpole-street W Jan 30th 1916

INVERSION OF THE PELVIC BONES

To the Editor of THE LANCET

SIR,—In your issue of Feb 5th Professor G Elliot Smith makes some critical remarks on my paper on Inversion of the Ilium and Sacrum and Ischium and Pubes as causes of deformities of the female pelvis[1] I hope I may be allowed by your courtesy to reply to his remarks, which are as follows —

> Dr D Berry Hart s memoir (see THE LANCET, Jan 29th, p 255) does not warrant the assumption that the inversion of the pelvic bones as a cause of trouble in the female is a pathological condition newly discovered by him Dr Douglas E Derry, when working in the Medical School in Cairo, was the first to give an adequate explanation of the significance of the preauricular grooves in the female os innominatum, and both he and Professor Wood Jones called attention to cases in ancient Nubian skeletons where inversion of the pelvic bones was a cause of deformity In several cases they found the fœtal head impacted in such pelves

This account is incorrect In the first place, Zaaijer in 1866 drew attention to the sulcus preauricularis, and Dr Derry says "Another feature of considerable significance in determining the sex of a given bone may be found in the groove or sulcus first described by Zaaijer in 1866" It is not found constantly and is of secondary importance, although Professor Wood Jones says "it is by far the most valuable sexual indication we have"[2] The important means of sexing pelvis is the sacrosciatic notch, and on this I say in my paper, "General anatomists have, however, drawn attention to special differences between the male and female ilium, since it is of importance, as Elliot Smith and Wood Jones have shown in archæological work, to determine the sex from an isolated ilium" I then give the points as to the sacrosciatic notch In regard to obstetricians I criticise them and myself, of course, for neglecting these questions, and praise the general anatomists for their work in regard to them What I claim to have shown is that in certain deformed pelves the deformity is due to inversion of the ilium or of the ischium and pubes On this Professor Elliot Smith says as to the cases where the women had died in labour "In every one of these cases the pelvis was of abnormal form and most of them exhibited a sex contradiction"[3] Nowhere, so far as I am aware, is inversion spoken of The terms 'sex contradiction" is incorrect, as the sex gland is the criterion of sex, whereas the pelvis is part of the sex ensemble I must finally ask Professor Elliot Smith to quote any passages in my paper where I have claimed any originality as to the facts of the sacrosciatic notch and sulcus preauricularis He might also quote from his monograph any statement he makes as to his cases of deformed pelves being termed "inversion" He uses the term "sex contradiction" in it and "inversion" for the first time in his letter

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D BERRY HART

Edinburgh Feb 7th 1916

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[1] See Edinburgh Medical Journal January and exact summary in THE LANCET of Jan 29th p 255

[2] Elliot Smith and Wood Jones op cit p 220

[3] Op cit p 200

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SIR,—I read with pleasure Captain William Brown's logical and temperate letter published under this heading in your issue of Jan 29th Those who have followed the modern developments of the psycho analytic (or, as Captain Brown prefers to call it, the autognostic) method of treatment of functional nervous disease must realise that the theory of Freud is too limited to account for all the observed facts, but this should not in itself make this method of treatment disreputable As practised now, psycho analysis is a careful inquisition into the mental history and processes of a patient, by means of free association, word association, and dream analysis, with the object of finding out whether there is or is not anything in these processes that has a bearing on his present disability If such a factor is discovered, the thorough understanding by the patient of its association with the nervous manifestation from which he suffers has a striking effect as far as the relief of this manifestation is concerned

There are at present three chief methods by means of which functional nervous manifestations may be attacked, these are—psycho analysis, hypnosis, and isolation My own experience, as officer in charge of the nerve hospitals in the 2nd Western Command, is limited to the first and third of these three methods, but the value of hypnosis has been convincingly demonstrated quite recently in your journal by Major C S Myers

As regards psycho analysis, my experience is that improvement in the patient's condition is brought about in the majority of cases so treated, but that there is a strong tendency to relapse The treatment has to be persisted in for a very considerable time, and even then, after an apparent cure, a subsequent relapse is not infrequent There are, however, a certain number of patients that are not improved at all by this method, though this number does not form a large proportion of the cases treated

In the case of treatment by isolation I find that the results are of the "all or nothing" category if the patient reacts at all the improvement is more lasting, but the number of patients that do improve is less than in the case of the psycho analytic method

It seems to me that the point to which attention ought to be devoted now is the indications by means of which we may come to a decision as to which method of treatment is likely to give the best result in any particular case In the present state of our knowledge this is not at all an easy decision to form, and the difficulty is by no means lessened by adopting a hostile attitude towards any one method The mental configurations of a large number of patients must of necessity be diverse, and it is only reasonable to assume that these three methods of treatment possess different values in different cases

I am, Sir, yours faithfully,

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Captain R A.M C. (T.F) Honorary Physician to the Ancoats Hospital Manchester

2nd Western General Hospital Feb 1st 1916

Correspondence.

"Audi alteram partem"

ALBUMINURIC RETINITIS IN EPIDEMIC (ACUTE) NEPHRITIS

To the Editor of THE LANCET

SIR,—The war has raised many problems, some new, others old but brought into fresh prominence Among these is that of acute nephritis It might have been expected that acute nephritis would be common among those who had passed through the cold exposure of trench life, yet the war has conclusively shown that cold and exposure as such are at the most contributory causes only The outbreak in the warm weather, when the winter was past, was so extensive that it deserved the name of epidemic nephritis given to it, though investigation has so far failed to track the cause down to any recognisable infection or germ The study of a series of these cases at St Bartholomew's Hospital has led to most interesting results in the capable hands of Dr W Langdon Brown and his co workers

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2nd Western General Hospital Feb 1st 1916

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[1] See Edinburgh Medical Journal January and exact summary in THE LANCET of Jan 29th, p 255

[2] Elliot Smith and Wood Jones op cit p [illegible]

[3] Op cit p [illegible]

THE INCOME-TAX AND GRATUITIES TO TEMPORARY LIEUTENANTS, R A M C

To the Editor of THE LANCET

SIR,—As is well known, certain gratuities and bonuses are granted by the War Office to temporary lieutenants of the Royal Army Medical Corps after 12 months' service, and a question has arisen as to whether such grants become taxable as "income" under the present Finance Acts As the matter was one which was by no means clear and was of much interest to the military members of our profession, I applied to Sir Henry Craik, M P, K C B, the Parliamentary representative for Aberdeen and Glasgow Universities, for his valuable aid in putting a question to the Treasury through its Parliamentary Secretary, Mr Montagu The reply, written and addressed to Sir Henry Craik, is, I take it, of sufficient importance to be recorded in your journal, and I accordingly append it —

> I return herewith the letter from the Medical Defence Union which you handed to me respecting bonuses and gratuities given to temporary lieutenants, R A M C It seems probable that these bonuses and gratuities are generally given, under the officer's contract, for satisfactory service At any rate there is no reason to doubt that they are given in respect of and in consideration of his services and as such they will be liable to income tax I may perhaps add that firstly an officer in the Royal Army Medical Corps will come under the liberal relief provisions of Section 25 (1) of the Finance (No 2) Act, 1915, if his total income does not exceed £300, and secondly, under Section 13 (1) of the Finance Act, 1914 (Session 2), and Section 20 of the Finance Act, 1915, he will only bear tax in respect of the practice he has given up on the basis of the actual profits (if any) of the year, instead of on the average of the past three years

This will effectively clear the issues involved and make the position no longer doubtful

I am, Sir, yours faithfully,
A G BATEMAN,
General Secretary Medical Defence Union
4, Trafalgar square W C Feb 4th 1916.

AMMONIA AS AN ENEMA

To the Editor of THE LANCET

SIR,—May I draw your readers' attention to the effectiveness of an ammonia enema in the treatment of post operative ileus and intestinal paresis This sequela of an abdominal operation all have found to be most distressing to the patient, while it is exasperating to the surgeon, and in extreme cases even dangerous to the patient's life I understand that at the front it has proved frequently a fatal complication of operations for abdominal wounds

The prescription is liq ammon fort 1 dr, water 1 pint, administered as an enema, its effect is greatly enhanced by a hypodermic of pituitrin extract 1 c c half an hour previously This treatment is sure to result in a good motion and discharge of excessive flatus, and again and again I have found it to act where the ordinary enemata, turpentine, eserine, &c, had failed Two words of warning I would give—namely that if used frequently, or if used in greater strength than I suggest, injury to the rectal mucous membrane is liable to take place On two occasions the daily administration of the enema for three consecutive days resulted in a certain amount of rectal hæmorrhage On another occasion the mistake of a nurse in putting in too much ammonia gave the patient a very painful septic colitis lasting for a week

My excuse in writing about this is that although I do not claim originality I have not been able to find in any text book any mention of ammonia as an enema, nor have I ever met anyone in England who ever heard of it Yet I am convinced of its importance —I am Sir, yours faithfully,

T A BLACK, M B,
Resident Medical Officer Barnes Convalescent Hospital Cheadle
Feb 1st 1916

MATRICULATION AT THE UNIVERSITY OF MANCHESTER

To the Editor of THE LANCET

SIR,—In the report of the Committee of Management to the Conjoint Examining Board of the Royal Colleges, as well as in the report of the Comitia of the Royal College of Physicians, it has been stated that Latin is no longer a compulsory subject in the entrance examination to the Faculty of Medicine in the University of Manchester

I should be glad if you would allow me to correct this misunderstanding The University of Manchester has not modified the matriculation requirements —I am, Sir, yours faithfully,

G ELLIOT SMITH,
Dean of the Faculty of Medicine
University of Manchester
Feb 8th 1916

⁂ The excerpt from the report of the Committee of Management, in our account of the Comitia of the Royal College of Physicians of London, was an accurate reproduction of the words of the report —ED L

THE TREATMENT OF WHOOPING COUGH

To the Editor of THE LANCET

SIR,—I have read with interest the annotation on whooping cough in THE LANCET of Jan 29th. I vividly remember the sufferings of my own children several years ago from this horrible disease, and the heart breaking failure of one drug after another to even more than very slightly relieve the symptoms Practically every one of those mentioned was tried under the advice of a distinguished colleague From that time until a year ago I have as signally failed During the early part of 1915 several cases came under my notice and I painted the children's chests front and back with a mixture of cantharides, croton oil, and almond oil The result was most gratifying Every case was aborted within 14 days The following is a good formula —

℞	Ol croton	ʒ i
	Cantharadini	gr iii
	Acidi acet fort	ʒ i
	Ol amygdal dulc	ad ℥ viii

The painting was carried out weekly and occasioned no distress I am, Sir, yours faithfully,

W J MIDELTON
Bournemouth Feb 1st 1916

SODIUM GYNOCARDATE IN LEPROSY —Mr W Martindale writes to us, pointing out that palmitic acid is one of the natural constituents of genuine chaulmoogric acid, and cannot be termed "an impurity," to use Sir Leonard Rogers's phrase in our columns last week Samples may certainly vary in the amount contained

THE SOUTH AFRICAN HOSPITAL. — Lord Gladstone writing to the press on behalf of the South African Hospital and Comforts Fund has intimated that a programme has now been drawn up providing for a completely equipped hut hospital in Richmond Park As far as possible the medical and nursing staff will be obtained from South Africa The office address of the fund is 2 London Wall Buildings E.C

Obituary

CHARLES STONHAM, F.R C S ENG, C M G,

COLONEL, A.M.S SENIOR SURGEON TO WESTMINSTER HOSPITAL.

Charles Stonham was born at Maidstone in 1858 He was educated at King's School, Canterbury, and went to University College Hospital Medical School, where he gained the Atchison Scholarship in 1881 In a successful academic career he took gold medals in surgery and obstetric medicine at the University of London, becoming an F.R C S in 1884 He was a man of great natural ability, who profited to the full from the teaching given by the distinguished men then on the staff of the hospital Marcus Beck was the great exemplar upon whom he modelled himself, whilst Berkeley Hill gave him an inclination for his particular line of practice In addition, as obstetric assistant under Sir John Williams he obtained a good introduction to abdominal surgery His connexion with University College Hospital continued for some years, he held successively all the resident posts, was senior demonstrator of anatomy in the medical school, and whilst he served as curator of the pathological museum he worked with great zeal at a descriptive catalogue of the surgical, gynæcological, and obstetric specimens

For a short time he was on the surgical staff of the North West London Hospital and of the Cancer Hospital, later on he was for a time surgeon to the Poplar Hospital for Accidents He was appointed assistant surgeon to the Westminster Hospital in 1887, when he resigned his other posts He at once made his mark at Westminster, within ten years he became senior surgeon and lecturer on surgery, and was recognised by all his colleagues as a notable acquisition to the staff Meanwhile his wide knowledge of surgical pathology and his previous experience enabled him to restore and write a catalogue of, the hospital museum, and later he made use of this accurate and multifarious information and became the author of a manual of surgery in three volumes His appointments as examiner included that in anatomy on the English Conjoint Board and in surgery at the Apothecaries Society and in recent years he had been examiner in surgery at the University of Ireland

Stonham s commanding spare figure, striking face, and the force he threw into speech and movement impressed not only students but colleagues and patients, while he possessed the skill that his dramatic appearance promised He was perfectly ambidextrous his long thin hands were used most skilfully he was a very rapid operator, beginning and ending quickly, yet proceeding with all due care and caution at critical points The following are crucial instances supplied to us by one of his colleagues of his surgical skill in combination with anatomical knowledge

A man had a rapidly increasing aneurysm of the *second* part of the *left* subclavian artery At the first operation Stonham ligatured the arterial branches distal to the sac at the second operation he divided the clavicle and ligatured the *first* part of the artery The man was seen some years afterwards by the writer of this note and his vascular condition had meanwhile been stationary Later the patient died in the country but efforts to obtain a post mortem examination failed Again by a truly major operation he removed the upper extremity along with the breast of a woman for malignant disease She got up with the wound healed 10 days after the operation and was able to leave the hospital "

Whilst busily engaged as a hospital surgeon and with private practice he distinguished himself in other ways He was in early life an enthusiastic mountaineer, and as a member of the Alpine Club made some noteworthy climbs He displayed, perhaps, his most original talent as an observer of birds He filled his house with a beautiful and rare collection of birds and their eggs, and he published a large book entitled " Birds of the British Islands," notable for the guidance he gave to the artist in making the drawings, as well as for the bird lore included in the text

Stonham s death was a direct casualty of the war He commenced his military service as surgeon in the Middlesex Yeomanry At the outbreak of the South African War he organised and took out as surgeon in chief the Imperial Yeomanry Field Hospital, of which he afterwards published a full account A remarkable incident happened not long after landing He, with his field ambulance, arrived soon after De Wet had attacked and captured the Derby Militia. It devolved upon Stonham as the senior officer present to arrange matters with the Boer general and to transmit the first knowledge of the mishap to the British authorities He was mentioned in despatches, received the medal with four clasps, and was made a C M G On his return he continued his ambulance work and devoted an immense amount of time to the training of recruits and to the provision of equipment and horses for a mounted ambulance In spite of endless difficulties from lack of funds and support, his unit was able to take part in manœuvres, and at the beginning of the present war was found ready He could have taken it out to France with the first Expeditionary Force Unfortunately he had to undergo the severest trial to his patience, his trained men and horses had to be transferred to fill up deficiencies elsewhere, and he had to spend a winter in East Anglia, replacing what had been taken from him At last he was ordered to Egypt, where he became Inspector of Hospitals the testimony to his good work in that position has been many sided and warm He was promoted to be Colonel in the Army Medical Service Very soon, alas, his health failed He had suffered in recent years from emphysematous attacks when a short holiday in the south at this time of year would restore him But last winter tried him severely, in Egypt he was again attacked, at a time when he was weakened by dengue and dysentery Forced to take sick leave he went to Cannes but failed to recuperate there as in previous years He reached home very weak, attacks of breathlessness continued, and he died on Feb 1st His funeral with military honours took place on Feb 3rd at Golder s Green At the same time a service was held in the chapel at Westminster Hospital, where the memory of Stonham will long be kept green

Sir Bryan Donkin writes —

I send you a few words in memory of my old friend and colleague Colonel Stonham whose untimely death I greatly mourn His loss will be felt deeply by all those who knew him well and by the hospital he served so ably and earnestly during his 29 years on the surgical staff He and I were intimate friends from almost the beginning of our acquaintance in 1887 until his death and were active colleagues at Westminster Hospital for about 12 years Others will doubtless write in detail about his marked ability as a surgeon My own opinion of the high skill and conscientious care that he showed in all his work caused me to seek his assistance in most of the cases that came before me requiring the aid of surgical opinion or operation, and I have many vivid memories both of his prompt and untiring help in serious cases, as well of his abounding generosity and warm sympathy in dealing with his patients As a teacher of surgery he ranked very high, as many of his pupils can certainly testify His name must stand out long and prominently among the best surgeons who have ever worked and taught at Westminster Hospital Stonham was a man of determined character, scrupulously honest, self reliant, and fearless These qualities, with which his manner and strikingly attractive appearance thoroughly harmonised, tended to inspire the confidence so widely given him, both by friends and patients He could and did speak out when occasion arose If he felt he had been in error he freely owned it, and if he failed in any contention where he knew himself to be right he surpassed the vast majority of humans in his total lack of vindictiveness His death is a grave loss to his profession, his hospital and school and all his personal friends, in whom he inspired both affection and respect

JAMES STANLEY NEWTON BOYD, M B, B S LOND, F R C S ENG,

LIEUTENANT COLONEL, R A M C (T F) SENIOR SURGEON TO CHARING CROSS HOSPITAL, ETC

WE have already announced the death of James Stanley Newton Boyd, senior surgeon to Charing Cross Hospital, which occurred on Feb 1st after a short illness

Stanley Boyd was born in Shrewsbury May 18th, 1856, his parents being Major James Boyd, 86th Regiment, and Emma, daughter of Henry Newton of Shrewsbury His boyhood was spent at St Heliers in Jersey, where his parents resided, and he began his medical education at University College, London, in 1872. Here he had a distinguished academic career, and many of his contemporaries came later to occupy very high positions in the medical profession. We may instance Sir A Pearce Gould, Mr A J Pepper, Sir Victor Horsley, Mr C J Bond, and the late Colonel Stonham, whose death occurred on the same day, and whose obituary we publish this week He was house physician to Wilson Fox and house surgeon to John Marshall, and was, no doubt, much influenced by the latter's teaching, especially in the application of scientific investigation to the practice of surgery Boyd, like others of his date, owed much of his subsequent success to that disciple of Lister and Billroth, Marcus Beck, whose teaching of the science and the art of surgery was an outstanding feature of University College Hospital at that time He passed his examinations with honour to himself and his medical school, taking the gold medal in anatomy at the first M B at London University, and honours in his final M.B, B S in medicine and obstetrics in 1879 He became F.R C S Eng in 1881 After graduating he became demonstrator of anatomy and later of practical surgery in the medical school, and surgical registrar in the hospital The experience acquired in the last post had a great influence on his future career By conscientious devotion to the duties of this office he laid the foundation of his thorough knowledge of pathology and of its important bearings in surgical practice It enabled him to describe precisely the details of an operation and also of any subsequent microscopic investigation In later life he would often refer to the value which such an appointment is to a young surgeon if he takes full advantage of its opportunities.

In 1882 Boyd was appointed assistant surgeon to Charing Cross Hospital, and it was soon evident that he was an acquisition to the anatomical and surgical teaching of the hospital He became full surgeon in 1891, and since 1905 he had been sen surgeon to the hospital In the interval he h most of the important posts at the hospital and attached school He was lecturer on anatomy fr 1888 to 1897, pathologist from 1886 to 1888, dean the school from 1890 to 1895, lecturer on operati surgery from 1899 to 1901, and lecturer on surg from 1896 to 1905 His lectures both in anatom and surgery were remarkably thorough He w treasurer to the school in 1906, holding the p till 1911 during a most critical period of the school's history As chairman of the medical commit of the hospital and of the school committee, h showed much zeal and devotion in forwarding th interests, welfare, and progress of both, alw bearing in mind that the benefits were mutuall reciprocal Though not an athlete himself h was a great believer and supporter of athletics a means of improving the moral and character o a school of the University

Despite his responsible duties at the Char Cross Hospital Boyd found time to hold oth appointments with credit to himself and benefit t others At the time of his death he was surge to the Hospital for Consumption and Diseases o the Chest, Brompton, and consulting surgeon t Paddington Green Hospital for Children and to th New Hospital for Women, while he was also on th honorary staff of certain suburban hospitals Sin the beginning of the war, in addition to h multifarious hospital and arduous private wo he had been attending and operating daily at th 4th London General Hospital in his capacity o Lieutenant Colonel R A M C (T F) and a memb of the *à la suite* staff He was elected upon th Council of the Royal College of Surgeons of Engla in July, 1914, having previously been a member o the Court of Examiners He examined also in surgery at the University of Cambridge

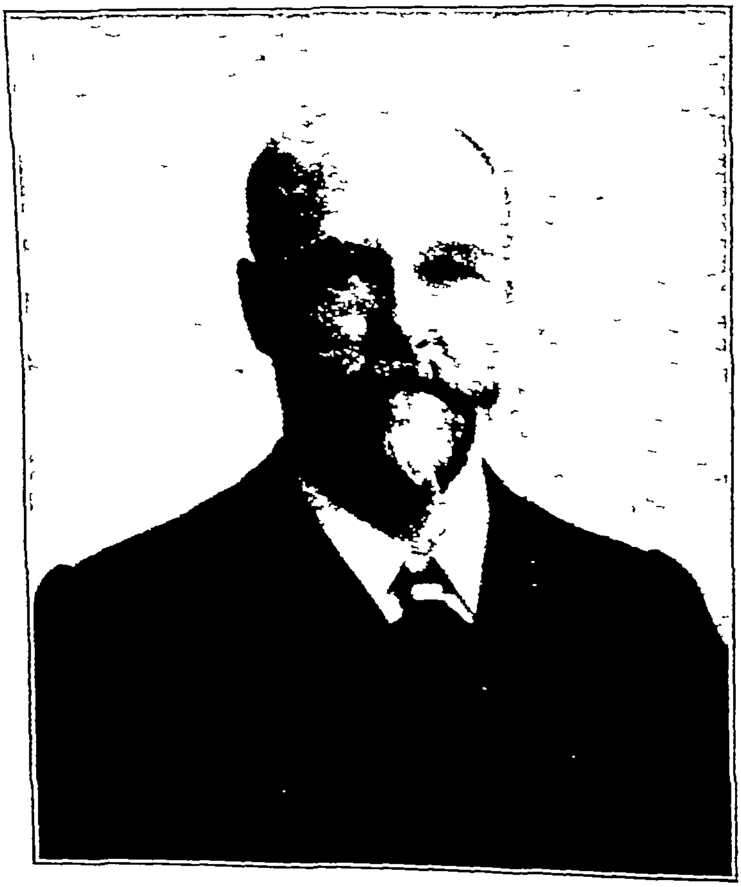
Stanley Boyd wrote no treatise on surgery bearing his name, although his wide pathological clinical, and practical knowledge would have justified him in such an undertaking But he was frequently asked to supervise the work o others, and in this way he was chosen to edit the twelfth edition of Druitt's "Vade Mecum" in 18 and also the seventh edition of the well known work "Pathology and Morbid Anatomy" of his old friend and colleague at Charing Cross Hospital Dr T H Green He also wrote articles in Heath's "*Dictionary of Surgery*" ("Hospital Mo tality and Hospitalism"), in Quain's "Dictionar of Medicine" ("Diseases of Mouth, Tongue, and Veins"), in Treves's "System of Surger ("Fractures"), in "*Encyclopædia Medica*, vol i ("Aneurysm"), and made many informing an lucid contributions to medical journals and to th proceedings of medical societies Amongst which may be named a paper read at the Royal Medical and Chirurgical Society in 1893 on "Artificial Anus treated by Resection and Enterorrhaphy b Maunsell's Method," and others on "Oöphorectomy in Cancer of the Breast," in 1897, and on "Can of the Tongue, Mouth, and Fauces," with W H Unwin, in *Practitioner* in 1903 He was moreove a brilliant operator, bold but always careful, and experienced in every branch of surgery He w keenly interested in the operative treatment o malignant disease, especially where the or mouth or fauces were involved and h success in radical operations for these conditions was in some measure due to his expert anatomical knowledge The best tribute to his skill m perhaps be estimated by the number o lleagues who owe him a deep debt of gratitude r his professional services either to themselves members of their family

Boyd was a man of very high principles Beneath rather reserved and, to some people, matter of ct manner there lay a very sincere warm hearted ture, ever ready to rejoice with his friends in eir success and to show active and generous mpathy in distress He hated all sham and pocrisy and had no use for slackers or slackness work, and this soon became appreciated by the udents, and when acting as dean he applied these nciples in the interest of the school.

Some of Boyd's professional and social connections were not always accepted at first but later ents have shown that he was a far seeing an. In the early days of the Women's School Medicine he as a lecturer n anatomy and uch of the uccess of that hool was due o him. He had he courage of is convictions nd never failed o advocate the laims of women o be admitted to he examinations f the Colleges nd Universities ike all pioneers n this movement he became npopular in ome quarters for time. On the ifficult subject f the proper evelopment of he University of ondon he had ery definite views He was among those who hold that the est way to reorganise the University of London as a eaching centre as far as medicine is concerned, would be to concentrate in a few centres the instruction in the preliminary sciences and much of the success which has now come to Charing Cross Hospital Medical School by its amalgamation for that purpose with King's College could have been effected years ago had the counsels of Stanley Boyd been adopted. Over 20 years ago he advocated in the public press that Charing Cross Hospital should be removed to a suburb south of the Thames This led to much opposition but his project has quite recently been adopted by a neighbouring hospital showing that the policy had at the time much to be said for it He was indeed a man with a broad outlook, and willing to work hard and to submit to much criticism for the sake of his fine ideals In 1893 he married Florence Nightingale Toms, M D, who became surgeon to the New Hospital for Women and subsequently held the post of lecturer on gynæcology at the Royal Free Hospital. At her death in 1910 she was senior surgeon at the New Hospital and was acknowledged to be a skilful surgeon and clinician. Stanley Boyd had a true helpmate in his wife, and her death made a great difference in his life His mother and one sister survive him

Dr Amand Routh writes —

Having entered University College Hospital as a student in 1873 the year following the entry of Stanley Boyd, and with similar sequence having joined the staff of Charing Cross Hospital in 1883 I have had almost daily opportunity of appreciating his personal integrity and professional uprightness and skill during over 40 years The late Montague Murray, F W Mott, and the late C J Arkle soon joined us as assistant physicians at Charing Cross Hospital, coming also from University College and we worked in perfect harmony Boyd laboured with disinterested zeal for the welfare of the students both during their hospital career and afterwards, and there was keen competition to become his house surgeon. His advice was sought and usually accepted by both colleagues and students, and his surgical opinion and help were similarly coveted in personal emergencies His friendship was deep and true, demonstrated mainly by acts of unselfishness and his sympathy was genuine, but not on the surface it was sometimes only realised when his help was being utilised in a crisis He never failed one in emergency and his counsel was so sound, so generous, and so clearly expressed that it always helped to clarify the outlook and lighten the difficulties of the situation.



JAMES STANLEY NEWTON BOYD

(Reproduced from a photograph by Ella Martin

As an instance of his unselfish impartiality I well remember how he acted when the obstetric physicians sought permission to perform all gynæcological operations upon their own cases Most of the major operations had hitherto been in the hands of the surgeons Boyd especially doing the bulk of the abdominal work. As soon as he realised that gynæcology was becoming a surgical specialty he helped to have all such surgical restrictions removed although he knew and so stated that the change would inevitably lead to the majority of major gynæcological operations going to the special rather than to the general wards The unexpected death of Stanley Boyd has startled and distressed his old friends more than any professional loss since the death of Montague Murray in 1907 Their characters and lives were very similar and their outlook on this world and the next was governed by a deep but unostentatious piety which controlled all their actions Such men as these exert an enormous influence upon the heart of a medical school, and their places will be difficult to adequately fill.

The War.

THE CASUALTY LIST

THE following medical officer appears among the casualties announced since our last issue —

Wounded

Lieutenant N A Scott, R A M C

DEATHS AMONG THE SONS OF MEDICAL MEN

The following sons of medical men must be added to our lists of those who have fallen during the war —

Second Lieutenant G D Murray, 12th Battalion Northumberland Fusiliers, son of the late Dr W D Murray, of Clapham Common, London, S W

Lieutenant J S Reed, 1st Buffs, attached to the Royal Flying Corps, only son of Dr J S Reed, of Gorleston, Suffolk

Lieutenant C W Turton, 6th Royal Sussex Regiment (T.F), younger son of Mr J Turton, F.R C S, of Brighton

THE EMPLOYMENT OF WOMEN IN MILITARY HOSPITALS

The replacement of male by female labour when this is physically possible has reached its logical conclusion in the new regulations issued for the employment of women in military hospitals These have been drawn up in consultation with the Joint Voluntary Aid Committee and concern two main classes of women —1 General service women 2 Labour staff, both of which will be engaged by the officer commanding, in the former case in coöperation with the county director Women living in their homes in the vicinity of the hospital will be given preference, but where sufficient of these are not available the Aid Committee will be asked to obtain offers from further afield

The Conditions of Employment as far as they Concern the First Class, the General Service Women

1 *Classification* —The following classes are marked out (*a*) Clerks on ordinary clerical work, including typists, telephonists, laboratory assistants (untrained) (including X ray attendants), storekeepers (*b*) Women with special technical qualifications requiring previous training, such as dispensers, head cooks, assistant cooks, trained laboratory assistants (*c*) Head clerks, including the head clerk appointed as the general service superintendent

2 *Rates of wages* —Remuneration for the various classes will be as follows (*a*) Inclusive weekly wages ranging from 20*s* to 26*s* (*b*) Dispensers will receive inclusive weekly wages ranging from 40*s* to 45*s* in the case of those possessing both the major and minor pharmaceutical certificates, from 28*s* to 30*s* in the case of those possessing only the Apothecaries Hall certificate Head cooks 20*s* to 25*s* a week plus meals if non resident, £30 to £40 a year plus meals if resident Assistant cooks 16*s* to 18*s* a week plus meals if non resident, £20 to £25 a year plus meals if resident A laboratory assistant (trained) an inclusive weekly wage of 25*s* to 30*s* (*c*) Head clerks will receive inclusive weekly wages ranging from 26*s* to 33*s* the general service superintendent 33*s* to 35*s*

The wages and wage limits stated above for all classes are intended to cover all time worked and are based on the understanding that no food or quarters are provided except where otherwise stated They will apply to all service whether probationary or no Dinner and tea will be provided where desirable at the hospital in which case a deduction of 5*s* a week will be made from the weekly wages of the women concerned

3 *Uniform* —General service women will be required after the completion of their probationary period to provide themselves with the regulation Voluntary Aid Detachment uniform. Towards this an allowance of £4 will be given on signing the agreement

4 *Probation and agreement* —General service women will be appointed on probation for one month. Their services, if not deemed satisfactory, may be dispensed with immediately at any time during the period of probation On the termination of the probationary period they will be required to sign an agreement for service for a period of 12 months or the duration of the war, whichever is less The form of agreement will include a clause empowering the officer commanding to terminate the agreement at any time on giving in general, one month's notice, and in the case of unsuitability or incompetence one week's notice.

5 *Travelling expenses* —In cases where a certificate is received from the Joint Voluntary Aid Committee that a woman has had to travel by rail on first joining the hospital, necessary travelling expenses, including third class rail fare will be refunded by the officer commanding

6 *Regulations* —All general service women employed in a hospital will be under the control of the officer commanding, and will be dealt with as regularly employed persons under the regulations for civilian subordinates, except where otherwise specially provided for General service women will be dealt with under the provisions of Section 47 of the National Health Insurance Act Medical attendance in cases of ordinary illness is normally provided by panel doctors but there is no objection to the provision of medical attendance for general service women by the hospital where the officer commanding considers this desirable

7 *Establishments* —Where general service women are employed a general service superintendent should be appointed, where one or more head clerks are employed one of them must be selected to act as general service superintendent at the same time Head clerks may be appointed where necessary, but not exceeding one (including the head clerk acting as general service superintendent) to five women clerks Head cooks may be appointed where it is found necessary to have a skilled woman in charge of the trained cooks but not more than one may be appointed to each kitchen

8 *Discipline* —The general service superintendent will under the control of the officer commanding, be responsible for the discipline and general welfare of the general service women, except those working inside the wards, who, while so employed will be under the supervision of the matron

9 *Women already engaged* —Women who have already been engaged under other terms may retain their rates and conditions where more favourable, but where the officer commanding considers it necessary to bring them under the new terms and conditions he may do so after giving reasonable notice

We have given these conditions of employment at length, as the service is one which will appeal with especial force to the wives sisters, and daughters of medical men and to other women who take a special interest in hospital work We understand that there are already over 2000 Voluntary Aid workers employed on general service, and that the demand for trained dispensers is at present greater than the supply

DISTINCTIVE UNIFORMS FOR MEDICAL OFFICERS —A Swiss correspondent writes ' The large number of doctors of all nationalities figuring among the killed and wounded has formed the subject of a special investigation by Professor Combe the Lausanne surgeon Dr Combe discussed the question with French and German military doctors alike and on the information thus acquired has formed the conclusion that the high percentage of such losses is due to the fact that in all the armies the uniforms of medical men resemble those of the combatants, and that it is impossible to discern any difference between them from a distance In his report which is now being considered by Swiss medical associations Dr Combe proposes in agreement with many eminent French German and Austrian doctors that doctors belonging to all the armies should wear similar uniforms extremely vivid and visible in character

Dr Harrington Sainsbury writes —

As one of Stanley Boyd's oldest friends, may I be allowed a little space in which to attempt a brief record of the man as I knew him? Our friendship began over 40 years ago at University College, London (he had come up to London from Jersey in 1872), it continued without a break and in close association until his death Marcus Aurelius devotes the first chapter of his 'Thoughts" to the several personalities which came into his life, and he ends up "To the gods I am indebted for having good grandfathers, good parents a good sister, good teachers, good associates, good kinsmen and friends, nearly everything good" Boyd's debt to the heavenly powers was a like one I can go back to the charm of his Jersey home at St. Heliers, and recall happy memories of a visit there when the circle was still complete, Major and Mrs Boyd, a younger sister and brother forming that circle, and I can see there, in the simplicities and integrities and unaffected enjoyment of life which prevailed, the natural source of the qualities which characterised and adorned him It was a military home where duty figured largely and cheerfully, and it has always seemed to me that in consequence Boyd retained much of the soldier's outlook all through his life this impression has been deepened since the war began. When Boyd came to London he saw a great deal of his uncle, Henry Newton, who had by then retired from a judgeship in the Indian Courts after a distinguished career in that country Mr Newton, who regarded him almost as a son had a great influence over him, and to that influence on the spiritual side of things much may be traced, in particular his sympathies with the Society of Friends A great friend of his at University College was William S Tuke, the prognostics of whose life were brilliant, but the 'dark economy of heaven" did not see fit to fulfil them here Through him Boyd came to know Dr Hack Tuke and his family, of long established Quaker origin and traditions, here he found kindred sympathetic influences and friendships which endured Among his contemporaries at University College, with whom he was associated, whom he influenced, and by whom in turn he was influenced, I would name in particular Victor Horsley, C J Bond of Leicester, Dawson Williams, Arthur Quarry Silcock, Amand Routh, F W Mott, Montague Murray, the last three became colleagues of his at Charing Cross Hospital Amongst his teachers at University College Hospital one name stands out pre eminently, that of Marcus Beck, a man who figured chiefly in his influence upon others and in the affectionate remembrance which he implanted

From about 1880 onwards began his connexion with the London School of Medicine for Women, to which in the chivalrous way which was his wont, he gave without stint time and labour, here, as always, recognising one standard only for himself as for others—namely, the highest Many friendships had their origin in this school, and here he found, as his great reward, his wife, Florence Nightingale Toms They were married in 1889 and with his marriage began the happiest and fullest period of his life, for the two were united not only by the bonds of affection, but by an exceptional community of tastes, interests, and ideals, they were husband and wife and at the same time true comrades Mrs Boyd died in 1910, to the sorrow of all who knew her to his grief before all Henceforward he continued to work with the same thoroughness but not with the same incentive, for joys could no longer be doubled, sorrows halved He left special directions that his funeral should follow as far as possible, in all details, the funeral service of his wife, and if this was departed from by the introduction of a military element it was done so after full consideration and in the belief that Mrs Stanley Boyd would have welcomed the departure, proud of the work which he had given to his country in its hour of need His mother and sister, who have lived with him since his wife's death, may well be proud of him and herein find their truest consolation

FRANCIS GETHIN HOPKINS M D B CH DUB,

LIEUTENANT R A M C LATE PRINCIPAL MEDICAL OFFICER, GOLD COAST COLONY

Francis Gethin Hopkins, who died at Plymouth on Feb 2nd in his fifty first year, was the son of the late Rev J W Hopkins, of Ahern, Fermoy He received his medical education at Trinity College, Dublin, and graduated M B B Ch, B A O in 1889, taking the M.D degree in 1903 h entered the West African Medical Service in 18 and was in succession medical officer of health Lagos, deputy principal medical officer at Acc and principal medical officer of the Gold Coa Colony He was also a member of the Gold Coa Administrative Executive Council In Septemb 1915, he retired from the Colonial Service a joined the Royal Army Medical Corps, bei attached to the troops at the Citadel, Plymo Dr Hopkins leaves a widow and four children

EDGAR HOWARD LAKE

Edgar Howard Lake, whose death at the ea age of 29, as the result of a street accide occurred on Jan 19th, was a man whose career i medicine, though only just opening, was repl with guarantees of accomplishment Startin medicine later than most men, Mr Lake matriculated at London University in 1911, and obtained 1st Class Honours in Anatomy at the B Sc. examination in November, 1914 He had gained a unusual number of prizes and distinctions a Middlesex Hospital, where he was demonstrat of anatomy, and at the time of his deat was on his way to complete his final medic examinations Mr Lake was an enthusiast wi a mind attuned for research, a man who, posse a far wider knowledge than that with which mo men enter medicine, had the additional advanta of a mechanical genius for the creating of instruments and an acute appreciation for the exactne of methods He was already engaged upon a extensive piece of research connected with the of the palate and overcrowded dentitions wh promised most useful results Mr Lake h travelled extensively in Europe, was a member o the Swiss Alpine Club, and had a remarkably go climbing record, as a student in London he thoug little of starting on a 50 mile walk during th night On the outbreak of war he joined th Officers Training Corps, into the life of which h infused his invariable keenness, and upon qualification, which was so tragically frustrated, he intend to join the army

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND

THE WEEK'S SUBSCRIPTIONS

THE subscriptions to the Belgian Doctors ar Pharmacists' Relief Fund received during the we have been as follows —

	£	s	d		£	s	d
Mr J Lynn Thomas C B	5	0	0	A W Ashcroft ..	0		
Association of Medical Women in India (per Dr M O'Brien)—				J W Hawley	0		
Dr Mackenzie	1	0	0	— Cluett	0		
Major Godkin I M S ..	4	0	0	— Emlyn	0		
Mr A Chapman proceeds of dependants prescriptions ..	0	10	2	E B Brigham	0		
Liverpool Chemists Association (collected by Mr W I Evan)				Osborne Hughes			
The late A S Buck ..	1	1	0	D Prysor Jones ..	0	1	
G Inman ..	1	1	0	— Wright ..	0	1	
H Humphreys Jones	0	10	6	Collected by Mr E A Angel—			
W R Evans.. ..	1	1	0	J Girvan			
Collected by Mr A W Ashcroft—				G Nelmes	0		
G Kennedy ..	0	[illegible]	6	E A Angel			
				Miss A Singh	1		
				Australian Pharmaceutical Conference (per the Agent General for Queensland) (total £75)	1		

Subscriptions to the Fund should be sent to t treasurer of the Fund, Dr H A Des Vœux 14, Buckingham gate, London S W and sh be made payable to the Belgian Doctors Pharmacists Relief Fund crossed Lloyds B Limited

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9 *Women already engaged* —Women who have already been engaged under other terms may retain their rates and conditions where more favourable, but where the officer commanding considers it necessary to bring them under the new terms and conditions he may do so after giving reasonable notice

We have given these conditions of employment at length, as the service is one which will appeal with especial force to the wives, sisters and daughters of medical men and to other women who take a special interest in hospital work We understand that there are already over 2000 Voluntary Aid workers employed on general service, and that the demand for trained dispensers is at present greater than the supply

DISTINCTIVE UNIFORMS FOR MEDICAL OFFICERS —A Swiss correspondent writes "The large number of doctors of all *nationalities* figuring among the killed and wounded has formed the *subject* of a special investigation by Professor Combe, the Lausanne surgeon Dr Combe discussed the question with French and German military doctors alike and on the information thus acquired has formed the conclusion that the high percentage of such losses is due to the fact that in all the armies the uniforms of medical men resemble those of the combatants, and that it is impossible to discern any difference between them from a distance In his report, which is now being considered by Swiss medical associations Dr Combe *proposes* in agreement with many eminent French German and Austrian doctors that doctors belonging to all the armies should wear similar uniforms, extremely vivid and visible in character

Blue, he says, is the colour most likely to appeal to Swiss doctors but it might possibly be confounded with the uniforms of various branches of the French army, while the white uniform would be easily seen in summer but invisible in winter against a background of snow Dr Combe favours the red uniform for all military doctors and urges the Lausanne medical association to formulate proposals on the point to be submitted to the different Governments "

TRAINING OF BLINDED SOLDIERS —There is a proposal in Edinburgh to provide facilities for the housing and training in useful occupations of Scottish soldiers who have lost their eyesight on the field of battle At the present the military authorities are arranging that all blind soldiers shall be retained in London, where arrangements will be made for their welfare and training in suitable employment, but it is urged that the Scottish capital has a right to look after the Scottish blinded soldiers, and it is pointed out by the promoters of the scheme that facilities for their special training are already in existence in Edinburgh The Royal Blind Asylum at Craigmillar is said to be thoroughly adequate for undertaking this commendable work for our stricken soldiers These views have been put before the Lord Provost, Sir Robert Inches, by the Rev Dr Burns, chairman of the board of directors of the Royal Blind Asylum, and Mr John Laing The Lord Provost expressed his approval of the project and promised his support for it, and the directors of the institution will now consider the general lines on which they should proceed.

A BRITISH HOSPITAL FOR CORFU —Arrangements are being made for the immediate despatch of an advance party for Corfu with the object of opening a British hospital there This will make the seventh hospital organised by the Serbian Relief Fund Mr E P Warren, the well known architect, has been appointed administrator of the hospital

THE AMERICAN WOMEN'S WAR HOSPITAL AT PAIGNTON —We have received the second report[1] of this hospital dealing with the second thousand cases treated there These cases were discharged between April 3rd and Dec 8th, 1915 The analysis reveals the same general distribution of medical and surgical cases as was noted in the previous report, but differs from it in a few interesting points The figures of the first report are printed in brackets for comparison There were more wounds, 547 instead of (445) but almost exactly the same number, 252 (254) were infected, none (2) with tetanus, 2 (0) with the gas bacillus Only 13 (19) amputations and re amputations were performed The cases of frost-bite were much reduced 18 (144) Infective medical cases were more numerous, 93 (60) dysentery accounting for 43 (0) of these Of non infectious conditions debility with 48 and gas poisoning with 28, now head the list Only 5 (3) patients died The average stay in hospital was 38 3 (22 8) days 72 (35) were invalided out of the service, 52 (54) transferred to other hospitals The patients arrived in 14 convoys, 230 of them in four batches from the Dardanelles The two units detailed for service in Great Britain by the American National Red Cross Society having been recalled on Oct 1st, 1915 after having completed a year's service two of the Red Cross surgeons Dr D Pearce Penhallow and Dr James E Daniel remained, and the staff was completed by the appointment of five more American surgeons There is now an English matron and the nursing staff is composed of English and American sisters

RED CROSS SALE —The amount realised at the supplementary sales of gifts in aid of the Scottish Branch of the Red Cross Society, held in Dowell's Rooms Edinburgh recently, inclusive of contributions in cash was £1530 5*s* 7*d* The amount previously intimated as the result of the sales held at the same place in the beginning of December last was £5476 18*s* 10*d*, making the total raised by these sales £7007 4*s* 5*d*

RED CROSS HOSPITAL FOR SOMERSET —The Shepton Mallet (Somerset) workhouse is to be fitted up as a county Red Cross Hospital and 210 patients are to be admitted

OBITUARY OF THE WAR

HENRY BRIDGE YATES B A. CANTAB, M.D, C M MCGILL

LIEUTENANT-COLONEL, C A M C

THE Canadian Army Medical Corps has sustained a loss through the untimely death of Lieutenant-Colonel H. Yates, second in command of No 3 Canadian Ge McGill University Hospital, in whom an acute attack of influenza in the late autumn was followed by ca weakness with its attendant pulmonary congestion a too familiar syndrome

Henry Bridge Yates, fourth son of the late Henry Yate Brantford, Ontario, was born in Montreal on May 10th, 1 He was sent to Charterhouse, and remained through life a devoted Carthusian From school he proceeded to Jesus College, Cambridge, obtaining his B A in 1888 For his medical course he returned to Canada, graduating M.D C M at McGill University in 1893 Possessed of private means, and having been left by his father interest in several undertakings in Brantford which demanded periodic visits to that town, Dr Yates did not enter upon private practice Shortly after graduating he spent several months in Germany studying bacteriology, and his return was appointed demonstrator in bacteriology McGill University, subsequently being made lecturer this he became increasingly interested in matters of p health, and as a result from 1906 to 1910 he served as Alderman of Montreal, as such being the leading member of the Hygiene Committee and head of th Fire Department The same public spirit led him to be keenly interested in the classes of the St. Jo Ambulance Association For many years he was lectur and examiner eventually becoming President of the Provincial branch of this Association and in recognition of these services he was appointed a Knight of Grace of th Order of St. John of Jerusalem Similarly, upon the dea of Colonel Jeffrey Burland shortly after his appointment a Canadian Red Cross Commissioner in England Colonel Yate became President of the Province of Quebec Branch of th Canadian Red Cross Society, and he and Mrs Yates thre themselves into the direction of the war activities of th Society At an early period he became attached as Medica Officer to the Victoria Rifles, then the foremost Milit Regiment in Montreal At the reorganisation of the Canadia Army Medical Corps in 1907 with the present Direct of Medical Services General Carleton Jones he threw him self actively into the work of the corps so that when wa was declared he was appointed acting A.D M S for th Montreal District, and in October 1914 was promoted fu Colonel

With the organisation of the McGill or No 3 Canadia General Hospital in February, 1915 Colonel Yates accep the lower rank of lieutenant-colonel in the Expeditiona Force and joined the unit as second in command His el son had died suddenly two years previously shortly after be appointed to the Canadian permanent force at Halifax and now the younger son elected to accompany his father a bugler to the unit Lieutenant Colonel Yates rapidly himself indispensable and by his capacity and charac gained not merely the respect but the affection of all He was a kindly considerate and delightful colleague [illegible] no thought for himself—a true gentleman [illegible] he had overstrained himself in the organisation of t hospital buildings on the French coast and when in the c ell of last November he was seized with influenza it left m with a heart so affected that there was from the first ttle hope that he would regain full health and activity

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[1] The first report was noticed in THE LANCET of Oct 23rd, 1915 p [illegible]

In 1895 he married Alice Mary, only daughter of the late W Bunting, of Toronto The widow a son, and a daughter urvive him

Lieutenant-Colonel J G Adami F R S of the Office of the irector of Medical Service, Canadian Expeditionary Force rites 'The death of Harry Yates comes as a big blow to any far outside of medical circles, for he was a man of any friends To the majority of medical men who knew im it is only the war that has brought a revelation of is sterling qualities over and above the social gifts with hich he was eminently endowed Belonging to a well to-do amily and enjoying *to the full a boyhood at Charterhouse* ollowed by pleasant years at Jesus, Cambridge, when that ood old College was supreme on the river and in every order f sport, he never made a pretence of scholarship and eemed to have turned to medicine purely from the desire o have some more serious object in life My late olleague, Wyatt Johnston, and I encouraged him to take p bacteriology largely because of our personal liking for him nd because in the early nineties demonstrators who demanded o stipend and were likely to remain attached to the department were few and far between When appointed he showed imself an excellent laboratory teacher, and what is more, a plendid organiser of practical classes Thus despite the riticisms of those who knew him only as a leader of the ocial world in Montreal he remained attached to my department for many years The war brought all his good qualities into strong relief, whether as President of the Red Cross Association of the Province of Quebec, and at the same time of the St John Ambulance Association or as acting A.D M S of No IV Division, or as adjutant to No 3 General Hospital His approachability wise judgment, even temper, and knowledge of men and affairs made him invaluable in each capacity He showed himself, in short, the man for the occasion, and now can ill be spared "

ALFRED NOEL GARROD B A CANTAB, M R C S ENG, L R C P LOND,

LIEUTENANT ROYAL ARMY MEDICAL CORPS

Lieutenant A. N Garrod who was killed in France on Jan. 25th at the age of 29, was the eldest son of Dr A. E. Garrod, Colonel, A.M.S, physician to St Bartholomew's Hospital He was educated at Marlborough and Emmanuel College Cambridge and entered as a student at the medical school of St Bartholomew's Hospital in October 1909 He qualified in 1914 was appointed house surgeon shortly afterwards and received his commission as lieutenant R A M C He was appointed to the 100th Field Ambulance and went to France in November 1915 It is said of him that at St Bartholomew's when house surgeon, he was the life of the resident staff always cheery and ready for work. He was possessed of an excellent physique and excelled at sport His early and sudden death has cut short a life full of promise The surgeon for whom he worked writes 'The news of Garrod's death came as a terrible shock He was always so cheery and bright always punctual and diligent in his hospital duties It seems only the other day that I bade him farewell and good luck His name will long be remembered at St Bartholomew's To his parents who had previously lost one son in the war the hospital tenders its deepest sympathy The medical profession in general will unite in this sympathy

Medical News

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND

—At the Final Examination held from Jan 11th to 26th the following candidates were approved in the undermentioned subjects —

Medicine—F M Allchin Westminster G F V Anson Cambridge and St Thomas's T A P Benbow Jefferson A W C Bennett St Thomas's K H Bhat, Madras and Charing Cross J T Bleasdell Cambridge and Leeds C E Bond Cambridge and University College C V Braimbridge Cambridge and St Bartholomew's Isabel Florence Buckle Royal Free G E. Chissell Middlesex Hester Mary Church Royal Free P S Clarke St Bartholomew's D Crellin Cambridge and St. Bartholomew's R G Dani University College A. R. K. Dina Bombay and Guy's G G Drummond St Thomas's W C C Easton Manchester W F Eberli Cambridge and St Bartholomew's M. Elias Cairo and St Mary's C A L. Evans University College G I Evans Oxford and St George's S W Fisk, University College and Middlesex A. R. Fuller St Mary's C H Gilmour Toronto and Middlesex C C Goodall and E A. Green ambridge and London H E. Griffiths Cardiff and St Bartholomew's A. B Gunasekara, Ceylon and King's College T H Gunewardene Ceylon and King's College Hilda Mary Halliday Royal Free J C N Harris Cambridge and St Thomas's W L. A. Harrison St Mary's B Haskins, Otago, Edinburgh and St. Bartholomew's E H V Hensley Cambridge and St Thomas's E L. Hopkins London W A. Hotson Westminster Helen Ingleby Royal Free and St George's G G Jack Middlesex T H Jackson Charing Cross F B Jago Manchester L. W Jones Cambridge and London V Kameneff Moscow Edinburgh and University College T L. han St Thomas's Ivy Keess, Bombay and Royal Free C E Kindersley Cambridge and St Bartholomew's R. P Langford-Jones University College M. E A. Latif Cairo and Middlesex H Lewis London Louisa Margaret Lister Bristol D Loughlin University College H. M. C Macaulay St. Bartholomew's P G McEvedy Guy's G A. S Madgwick London R H. Maingot St Bartholomew's L. A. Malik, St Mary's P S Marshall. University College G L. Maule Cambridge and Manchester, F W Maunsell Cambridge and St. Mary's A. D Millington, Birmingham T D Morgan Cambridge and London A. G Morris, Bristol B Mountain, Cambridge and University College S Muttiah, London K V Muttukumaru, Madras and London, N R. Nalliah, Ceylon and London J D Oliver Dublin and Middlesex May Olivera, Bombay and Royal Free A. J Orenstein Jefferson P E. D Pank Cambridge and London E W Paul Calcutta and Royal Free G Perkins, Oxford and St Thomas's P R. O R. Phillips, Cambridge and St. Thomas's B R. Powell Cambridge and St Bartholomew's D S Pracy St Bartholomew's M K. Robertson Cambridge and St Bartholomew's G C Robinson, St. Thomas's B T Rose Birmingham, P G Russell, Middlesex K. Sahib Lahore and St Thomas's E. Sakoschansky Westminster W H. Sarra, London J B. Scanlan St Mary's G B Sellwood, Cambridge and St. George's Edith Annie Shaw Royal Free C Shaw-Crisp St. Mary's N A. Sprott Oxford and St. Thomas's Elsie Stansfeld, Royal Free W Steadman University College H G Stormer St Thomas's A. Sunderland Charing Cross H. W Taylor *London* Lily Dorothea Taylor Royal Free W H Thomas Cardiff and St. Mary's J A. Tippet St Thomas's H M von Mengershausen Manchester H J Wallace University College L. Walton Manchester H. A. Whyte-Venables, Cambridge and St George's B W Willenberg Ceylon and Middlesex G C Williams Cambridge and Bristol H G E Williams, Cambridge and St Bartholomew's A. Wilson, University College T Wilson Manchester and L. Zeitline, Paris and University College

Surgery—A. W Adams, Bristol Mary Neville Andrews Royal Free G F V Anson Cambridge and St Thomas's K. D Atteridge St. Bartholomew's A. J Bado St Thomas's K. L. Bates Guy's T A. P Benbow Oregon and Jefferson G A. Beyers, St Bartholomew's K. H. Bhat Madras and Charing Cross J T Bleasdell, Cambridge and Leeds B S Bowes, Guy's, A. O Courtis, Cambridge and St Bartholomew's P A. Dargan St. George's L. M. Davies, Oxford and St. Thomas's L. ap I Davies University College H. M. Drake St Thomas's A. N Drury Cambridge and St Thomas's C Y Eccles St Thomas's C A L. Evans University College D J Evans, Cardiff and Middlesex L. W Evans, St Bartholomew's M D Evans London, W J Evans, Cardiff and University College W Farquharson, St Mary's G Fehrsen London E A. Fiddian Cambridge and St Bartholomew's M R. V Ford Sheffield C Gould University College H E Griffiths Cardiff and St Bartholomew's C G W Hahr St. George's A. E Hamlin, Madras and St. Bartholomew's G C Harley Birmingham A N Haworth Charing Cross G E. Heath St Bartholomew's V R. Hirsch Guy's E L. Hopkins and G P B Huddy London Helen Ingleby Royal Free and St George's V C James Middlesex L R Jennings Cambridge and St Bartholomew's S H M Johns Cambridge and St Thomas's W G Johnston St Mary's J G Jones Guy's L. W Jones Cambridge and London C E. Kindersley Cambridge and St Bartholomew's E. A. Levieur Guy's H Lewis London K T Limbery St. Thomas's G A. S Madgwick London R. H Maingot St. Bartholomew's Gladys Mary Miall Smith Royal Free R. D Moyle Johns Hopkins and Charing Cross K. V Muttukumaru, Madras and London H M Oldy Oxford and St Thomas's P R. O R. Phillips and A. C Pickett Cambridge and St. Thomas's D S Pracy St Bartholomew's R. Rau Damodar Madras and Middlesex D Rees Cardiff and University College E. D Richardson Charing Cross M. K. Robertson

Cambridge and St Bartholomew's B T Rose Birmingham F E Samaraweera *Ceylon and King's College* J T Samuel Cardiff and University College Elisabeth Henrietta Schwab *Royal* Free C P Sells Oxford and Middlesex G B Sellwood Cambridge and St George's Elsie Stansfeld Royal Free G T Symons and H J H *Symons* King's College A. H Taymour Guy's W H Thomas Cardiff and St Mary's J A Tippet St Thomas's R S Topham Leeds H M von Mengershausen Manchester Phillis Emily Webb, Royal Free H M Wharry Oxford and *St Bartholomew's* H A. Whyte-Venables Cambridge and St George's H G E Williams *Cambridge and St* Bartholomew's A. Wilson University College R S Woods Cambridge and St George's and G C N Younger Middlesex

Midwifery —G O Agarwala *London* A M Ahmad Cambridge and Guy's J Andrews St Bartholomew's G F V Anson Cambridge and St Thomas's H Archer Bristol A Arias *St. Bartholomew's* T B Bailey Cambridge and St Bartholomew's T A P *Benbow* Jefferson F E Bendix Middlesex H J Bensted Guy's O E Bond *Cambridge* and University College E G P Bousfield St Bartholomew's I R R Brogden Cambridge and Guy's W W K Brown St Thomas's H S Bryan *London* L J F Bull St Bartholomew's H R Buttery Cambridge and St Bartholomew's H *H* Castle L A. Celestin and A. H Clarke, St Thomas's P S Clarke, St. Bartholomew's A A Cockayne Cambridge and St Thomas's W H *Coldwell* Westminster J D Constantin St. Bartholomew's G F *Cooke Ceylon* and St Bartholomew's; M C Cooper London L Cunningham Cambridge and St. Bartholomew's R C Davenport, St Bartholomew's A V S Davies *St. Mary's* F G L Dawson London M A. B Demerdash University *College* A. B *Dummere London* W H Dye and *J D Dyson* Middlesex, A. W F Edmonds Westminster H E Ekanayake Ceylon and Middlesex M Elias Cairo and St Mary's H S *Evans* Cambridge and St Thomas's; T S Evans *Cardiff and St Mary's* F O *Fehrsen London* E A. Fiddian Cambridge and St Bartholomew's M R. V Ford, Sheffield Marjorie Ellen Franklin Royal Free A. R Fuller St. Mary's D H A. Galbraith Guy's G T Garraway University College L. S *Gathergood Cambridge* and *Guy's* E L Glasier Manchester H E Griffiths Cardiff and St Bartholomew's Ethne Haigh Durham N H Harrison Charing Cross B Haskins Otago Edinburgh and St Bartholomew's A. V Haworth Charing *Cross* J A *Hill London* G *Hoffmeister* and W O Holst Middlesex W A Hotson Westminster J B Hume, St Bartholomew's Helen Ingleby Royal Free and St George's Elizabeth Ethel Jenkins Royal Free T Joekes Leiden P T Jones Cardiff and University *College* W H *Jones St. Mary's* H. *Lewis London* N M Lewis and E L Lightwood Westminster Annie Lloyd Royal Free D Loughlin University College L G Lunnon Middlesex H M C Macaulay St. Bartholomew's L A. Malik St. Mary's W *Marriott St Thomas's* P S *Marshall, University* College J A. Martin Cambridge and Guy's; F C Mason Middlesex Adeline Mabel Matland Royal Free B H Mellon National University Dublin Gladys Mary Miall Smith Royal *Free* H W L *Molesworth London* E C de M *Morgan Guy's* R Moser St. Bartholomew's E W Mottau Ceylon and University College G Moulson St. Thomas's D M Muir Cambridge and St *Bartholomew's* J J Murphy London F *P Nicholas Cambridge* and St George's D *O Norris* London and Charing Cross; Alice O Reilly Calcutta and Birmingham J A. P Perera Ceylon and London Enid Maud *Pfeil* Royal Free; V Philippe, Brussels E S *Phillips* and *R L. Portway Guy's J S Ranson* Westminster *C Y Roberts St Thomas's M K* Robertson and J D Rutherford Cambridge and St Bartholomew's R J Scarr Manchester G B Sellwood Cambridge and St. George's R G Simpson *London D M Smith* Bristol *Elsie Stansfield Royal Free G* P Tatton London W H Thomas Cardiff and St Mary's R O Townend London H M von Mengershausen Manchester *O Williams Cardiff* and University College A G P Wills *Cambridge and St* Thomas's A Wilson University College J H Wiseman Sheffield; and C Young University College

THE ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW —The Faculty observing the large number of those connected with the medical profession who are giving war service in various capacities are desirous of encouraging others to follow the example With that twofold object they have made an alteration in their regulations for the examination to the Fellowship of the Royal Faculty which they consider will mark their sense of the value of war service, and will facilitate the entry of those who render adequate war service into the Fellowship without unduly lowering the standard of the qualification The Fellowship of the Royal Faculty, an honours qualification is open to registered medical practitioners of not less than two years standing who pass an advanced examination in two of the principal subjects of medical science *The Faculty*, having in view the value of the loyal and patriotic services which those who are engaged in the war are giving to the State and the value of the experience they are likely in this way to acquire have resolved that in their case an examination in one of these subjects in place of two shall be accepted as sufficient

ROYAL MICROSCOPICAL SOCIETY —The next meeting of this society will be held on Wednesday *Feb 16th* at 8 P M, at 20 Hanover square W when a communication will be made by Mr E Heron Allen Mr A Earland and Mr C F Rousselet on the *Progress* and *Developmen*[illegible] of Vision and Definition under the Microscope *There* will be a representative series of microscopes from the [illegible] collection on view There will also be a demonstrati[illegible] Mr J E Barnard entitled '*An Experiment with the* [illegible] Microscope" The programme promises to afford an exce[illegible] commentary upon the history of microscopy

ROYAL MEDICAL BENEVOLENT FUND —At th[illegible] last meeting of the committee 20 cases were con[illegible] and £149 10s voted to 15 of the applicants The fol[illegible]ing is a summary of the cases relieved —

Widow aged 56 of M D Aberd who practised at Balham [illegible] 1904 After husband's death went to South Africa with her [illegible] invested all her *capital in a mine* which was a failure [illegible] returned to England at the outbreak of war Son joined the [illegible] South Africa and the little allowance he was able to make to [illegible] mother ceased She has earned a little by nursing but not [illegible] keep her Relieved once £10 *Voted £5 and referred to the G*[illegible] Widow aged 42, of M R C S Eng who practised in London Has [illegible] young children Has endeavoured to make a living by run[illegible] *boarding house* but owing to ill health and the children has [illegible] very difficult and required a little *temporary help* Voted £[illegible] Wife aged 39 of a professional man who had joined the army Applicant's first husband was a medical man and had three daug[illegible] by him She has developed tuberculosis and had to go into a sa[illegible]torium and wanted a little help *to complete the educati*[illegible] youngest daughter aged 16 Another society has promised a [illegible] help £2 10s was granted to the Guild who were also going to [illegible] Daughter aged 49 *of M D Lond* who practised in London and d[illegible] 1900 Was left practically unprovided *for* and is very delicate [illegible] income £19 per annum For many years lived with a *friend* w[illegible] recently died. Relieved twice £25 Voted £15 in 12 instalments —*Daughter aged 63 of M R C S Eng* who practised in Wa[illegible] died in 1879 Applicant unable to work in consequence of [illegible] health Only income a pension of £26 from another society Re[illegible] nine times £103 Voted £9 in 12 instalments —Daughter age[illegible] of M R C S *Eng who practised at St. Clears and died* in [illegible] Applicant has double curvature of the spine Lives with a [illegible] who is an annuitant of the Fund Relieved twice £12. Voted £[illegible] instalments —Widow aged 63 of *M R C S Eng* who practised in [illegible] and *Somerset* and died in 1901 *Applicant* was left quite unpro[illegible] for at husband's death Has managed to earn a little by dress[illegible] and letting rooms but has been ill, and recently underwent an opera[illegible] for uterine fibroids Relieved twice £24 Voted £12 in 12 instalments —Widow aged 65 of L S A. Lond who practised in London and di[illegible] 1890 Applicant has no permanent income but earns a little by nee[illegible] work and taking in boarders Her health is very precarious Re[illegible] three times £36 Voted £12 in 12 instalments —*Widow aged* [illegible] M R C S Eng who acted as locum and died in 1913 Applicant wa[illegible] practically supported by eldest son who gave up a good position [illegible] joined the army but has been missing since September las[illegible] O[illegible] *son also in the army but only able to allow* his mother the usual ar[illegible] allowance. Too old and health not good enough to enable applica[illegible] work Relieved twice £20 Voted £12 in 12 instalments —Widow ag[illegible] 61 of M R C S Eng who practised *in Leicestershire and died in* [illegible] *Applicant was the Morgan annuitant of the Fund for some years* Ow[illegible] to three sons having joined the navy and army and not able to make [illegible] usual allowances towards the upkeep of the home and one ha[illegible] very ill applicant *has got into temporary difficulties* Voted £[illegible] Wife aged 49 of L R C I Irel. Separated from her husband owing [illegible] his habits Left with three children the youngest of whom is [illegible] Epsom College and the others hope to be able to earn a little [illegible] help *their mother Applicant's eyes* are bad and she is quite una[illegible] to work Relieved three times £36 Voted £12 in 12 instalments —Widow aged 59 of L R C I Irel who practised at Chester and died [illegible] 1907 Applicant was left quite unprovided *for only certain* inc[illegible] pension from another society of £25 *Health very unsatisfactory* [illegible] one daughter who is married and unable to help *Relieved* [illegible] times £96 Voted £12 in 12 *instalments —Daughter aged* [illegible] M R C S *Eng who practised at Huntspill* and died in [illegible] Applicant has tried to make a living by letting rooms but [illegible] and all her spare capital has been lost Only income now a litt[illegible] from needlework *Relieved five time* £[illegible] Voted £12 in 12 instalments —*Daughter* aged 45 of M D [illegible] L R C P Lond who practised [illegible] London and died in 1893 Applicant's health is very unsatisfactory She earns a little by painting but this is very precarious [illegible] present *Relieved once £12* Voted £10 in two instalments [illegible] aged 70 of M R C S Eng who practised at Maidstone and died [illegible] Applicant was left totally unprovided for and has tried to earn a li[illegible] by taking in paying guests but recently *has not been* [illegible] and is too old to try other work. Relieved [illegible] time £[illegible] Voted £[illegible] in 12 instalment

Subscriptions may be sent to the hono[illegible] treasurer Dr Samuel West, 11, Chandos street Cavendish [illegible] London W

Mr Harold Low, M A, M B, B C Cant[illegible] senior anaesthetist to St Thomas's Hospital has [illegible] appointed anaesthetist to His Majesty's Hou[illegible]old

Appointments

[illegible] THE LANCET [illegible]

BELL, G [illegible] M B, B C Camb [illegible] Surgeon under the Factory and [illegible] [illegible]

WILLOUGHBY, WILLOUGHBY, MAJOR, M D, D P H Camb [illegible] Medical Officer [illegible]

Vacancies.

further information regarding each vacancy reference should be made to the advertisement (see Index)
en the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

ISTOL ROYAL INFIRMARY —House Physicians and House Surgeons Salary at rate of £120 per annum with board, apartments and laundry

VENTRY AND WARWICKSHIRE HOSPITAL, Coventry —Third Resident Salary £175 per annum, with rooms board, laundry, and attendance

VONPORT ROYAL ALBERT HOSPITAL —House Surgeon, unmarried Salary £150 per annum with board and laundry

ELINA HOSPITAL FOR SICK CHILDREN Southwark S E —House Physician and House Surgeon Salary at rate of £160 per annum, with board residence and washing

UDDERSFIELD ROYAL INFIRMARY —Junior House Surgeon Salary £100 per annum with board residence, and laundry

EEDS PUBLIC DISPENSARY —Female Resident Medical Officer Salary £130 per annum with board residence and laundry

ONDON LOCK HOSPITAL, Dean-street, Soho W —House Surgeon for six months Salary at rate of £150 per annum

ANCHESTER BAGULEY SANATORIUM FOR TREATMENT OF TUBERCULOSIS —Second Assistant Medical Officer unmarried Salary £250 per annum with board and residence

ANCHESTER CHILDREN'S HOSPITAL, Pendlebury —Resident Medical Officer unmarried for six months Salary at rate of £100 per annum with bonus of £5 per month

ARGARET STREET HOSPITAL FOR CONSUMPTION (for Out-patients) 26 Margaret street Cavendish square W —Temporary Assistant Honorary Physician

EW HOSPITAL FOR WOMEN Euston road N W —Female Senior Clinical Assistants in Out-patient Department Also Female Assistant Anæsthetists

NORFOLK DISS 2/1ST HIGHLAND MOUNTED BRIGADE FIELD AMBULANCE 2, Mount street —Three Medical Officers

RESTON LANCS COUNTY ASYLUM, Whittingham —Locum Tenens unmarried Salary £7 7s per week with apartments board and washing

ROYAL FREE HOSPITAL, Gray's Inn road W C —Curator of Museum Also Radiographer and Medical Electrician Salary £100 per annum

ST PETER'S HOSPITAL FOR STONE &c Henrietta street Covent Garden W C —Junior House Surgeon for six months Salary at rate of £75 per annum with board lodging and washing

SALFORD ROYAL HOSPITAL.—House Physician and House Surgeon Salary at rate of £250 and £200 per annum respectively with board and residence

SUNDERLAND ROYAL INFIRMARY —Female House Surgeon Salary £150 per annum with board residence and laundry

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant House Surgeon unmarried Salary £120 per annum with residence, board and laundry

WEST HAM AND EASTERN GENERAL HOSPITAL.—House Physician and House Surgeon

WEST HAM UNION INFIRMARY Whipps Cross road Leytonstone N.E —Resident Assistant Medical Officer Salary £300 per annum with usual residential allowances

THE Chief Inspector of Factories Home Office London S W gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Newbridge in the county of Kildare at Aghadowey in the county of Londonderry at Clackmannan in the county of Clackmannan and at Sedburgh in the county of Yorks West Riding

Births, Marriages, and Deaths.

BIRTHS

ANDREWS —On Feb 2nd at Corran Lochgilphead Argyll the wife of Dr Alford Andrews of a son

BARNES —On Feb 3rd at Gloucester place Portman-square W the wife of Herbert Cooper Barnes M D Durh of a daughter

EWART —On Feb 4th a The Manor House Marylebone road the wife of Captain G A Ewart R A M C (T) of a son

MARRIAGES

IRVINE FORTESCUE—BODDINGTON —On Feb 5th at St James Piccadilly London Captain Archer Irvine Fortescue R A M C t Ruth Olive elder daughter of Henry Boddington J P and of Mrs Boddington of Pownall Wilmslow Cheshire

McGILLYCUDDY—LUKEY —On Feb 3rd at St Cuthbert's Wells Lieutenant Richard Hugh McGillycuddy R A M C to Ethel Florence second daughter of the late Edward Lukey J P of Dover and Mrs Lukey

TRINGLE—HART —On Jan 2[illegible]th at St Matthew's Ipswich Arthur Young Tringle M R C S L R C P Lond of Glaslyn Crescent [illegible] to [illegible] Eva Hart M B B S Lond

DEATHS

KIRKWOOD —On Jan [illegible] at 1 North street [illegible] George Kirkwood M D F R C P [illegible] ex President of the Cambridge and Huntingdon Branch B M A Senior Surgeon of the Peter [illegible] Infirmary

[illegible] —On Feb [illegible] Moon Cline Tower [illegible] Bournemouth [illegible] R A M C (T) of the [illegible] Division 3rd Army aged [illegible] years

N B —[illegible]

Notes, Short Comments, and Answers to Correspondents.

SOME USEFUL REFERENCE BOOKS

LIKE other annual works of reference, Messrs A and C Black's books—"Who's Who (15s net) 'Who's Who Year Book (1s net), Englishwoman's Year Book and Directory (2s 6d net), and "The Writers' and Artists' Year Book (1s net)—have been delayed in their publication owing to the war 'Who's Who" reports occurrences up to August 31st, 1915 Some 76 additional pages have been added to an already bulky volume, making a total of 2452 pages Its great value as a work of reference is enhanced by the appendix "Who's Who Year Book,' which gives classified lists of officers, appointments, or positions held by those who are mentioned in the larger volume, and incidentally includes much useful miscellaneous information, such as the principal railway lines, names of clubs, lists of societies, schools Nobel prize winners, and so forth "The Englishwoman's Year Book is a thoroughly practical guide to the activities of women in educational professional, social, philanthropic, and other spheres of work The section of the book usually devoted to sports and games now gives place to a War Supplement showing what women are doing for the relief of suffering and for the more speedy end of the war "The Writers' and Artists' Year Book, which has been compiled with the object of assisting those who write for the press, indicates the kind of articles required by the various publications, and the remuneration likely to be paid For all who can use the pen or the brush the book is indeed a useful one

TUNGSTEN TARGETS FOR X RAY TUBES

THE high cost of platinum and iridium has made it impracticable to employ these metals for making the anodes of X ray tubes The British Thomson Houston Company, Limited, of Mazda House, 77, Upper Thames street, London, have found that a tungsten target gives equally satisfactory results if special attention is given to its preparation As is well known, tungsten has a high atomic weight and melting point, the latter property enabling it to resist the intense heat of the cathode ray bombardment At the same time, the relatively low cost of this metal permits the employment of a much more substantial block of metal than when platinum or iridium is used We understand that the practicability of building tungsten targets suitable for X ray work depends essentially on the preliminary production of ductile tungsten, and this is a problem which has been solved in connexion with the manufacture of the filament electric lamp

RAT DESTRUCTION IN THE MALAY STATES

IN the fourteenth annual report of the Institute for Medical Research at Kuala Lumpur (Federated Malay States) is contained an interesting discussion of the methods of dealing with the recent plague of rats The impression still prevails among planters and others that extermination can be carried out by one or other of the viruses on the market The Danysz virus had been tried and found wanting in South Africa and India The Liverpool virus had been shown to be ineffective by Rosenau when the rats had access to other supplies of food Even plague itself which was very fatal to rats, has not produced any perceptible diminution of their number in India Effort to be effective, should be directed towards trapping and not poisoning them The report contains a record of painstaking work associated with the names of Dr H Fraser (director), Dr A T Stanton (bacteriologist), and Mr W Teacher (pathologist)

THE AFTER HISTORY OF A CÆSAREAN SECTION

ON Feb 9th 1893 the late Dr C J Cullingworth performed Cæsarean section on a woman aged 31 suffering from a rickety pelvis with an estimated conjugate diameter of 2[illegible] in The case was described in THE LANCET of Feb 18th 1893 The patient was pregnant for the seventh time Three of the previous pregnancies had terminated in miscarriage and one in labour at term when craniotomy proved necessary On two occasions labour had been induced at seven months the first time the child lived for a few years the second time the patient was in the hospital at York road where delivery was effected by version followed by perforation of the after coming head On again becoming pregnant the patient was advised to go to full time and be delivered by Cæsarean section This was done The operation was uneventful and the child a well formed male 7 lb in weight cried vigorously as soon as it was born We have received a letter from this child who is now 23 years of age, enclosing his photograph as a private in a cycling battalion The photograph shows a robust and powerful looking young fellow, who has therefore justified the anxious thought and care which Dr Cullingworth gave to his pre natal welfare

A BRITISH MEDICAL OFFICER IN THE RUSSIAN ARMY

THE *Aberdeen University Review* conjectures that Dr Colin Finlayson Simpson is the only Briton who is an officer in the Russian Army A member of the staff of the Moukden Medical College, Manchuria, China, he was anxious, when the war broke out, to serve his native country, but was unable to get through Russia and so attached himself to the Russian Red Cross Society At the evacuation of Lodz his superintendence of the safe removal of almost 18,000 wounded soldiers and others from there to Warsaw was warmly commended He has since been engaged with the 9th Army in Galicia, and holds the rank in the Russian Army which corresponds to lieutenant-colonel in the British Royal Army Medical Corps

A DILATORY PROPOSAL

AT the Tavistock county court recently a surgeon of Whitchurch, Devon, sued a patient and his wife for medical attendance The account was first rendered four years ago The defence was that the diagnosis of the illness was incorrect The judge held otherwise, and gave a verdict for the plaintiff The defendant, who stated that his income was £200 per annum, offered to pay "one shilling monthly," in discharge of a bill of £6 16*s*, which had been rendered four years ago, and it is not surprising that the judge ordered the amount to be paid in two monthly instalments

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M B—The subject was referred to in the following numbers of THE LANCET—Open air *Construction for* War Hospitals, Dec 25th, 1915, p 1405, Military Emergency Hospital Construction, Nov 20th, 1915 p 1164, Open air Hospitals in War time, by Professor R Saundby, Sept 19th, 1914, p 759

A M P, J E C, R T—"The Goat as a Source of Milk" Our correspondents should apply direct to the Board of Agriculture and Fisheries, Whitehall, London, S W

I S T—The matter is entirely one for private arrangement There can be no general rule, any more than there can be a general *rule for the prices to be paid*

COMMUNICATIONS not noticed in our present issue will receive attention in our next

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Medical Diary for the ensuing Week.

SOCIETIES

ROYAL SOCIETY, Burlington House, London, W

THURSDAY—Papers:—Prof A R Cushny and Mr S Yagi: On the Action of Cobra Venom.—Mr L *Doncaster: Gametogenesis* and *Sex-determination in the Gall fly* Neuroterus Lenticularis Part III—Philippa C Esdaile On the Structure and Development of the Skull and *Laryngeal* Cartilages of *Perameles* with *Notes on the* Cranial Nerves (communicated by Prof J P Hill) —Mr J C Bose and Mr S C *Das: Physiological* Investigations with Petiole-Pulvinus Preparation of *Mimosa Pudica* (communicated by *Prof* S H Vines)

ROYAL SOCIETY OF MEDICINE, 1, Wimpole street, W

Tuesday, Feb 15th.

GENERAL MEETING OF FELLOWS at 5 P M.

Ballot for the Election of Candidates for the Fellowship (Names have already been circulated)

MEETINGS OF SECTIONS

Tuesday Feb 15th.

MEDICINE and THERAPEUTICS AND *PHARMACOLOGY* (Joint Meeting): at 5 P M

Dr Hale White (*President* of the Section of Therapeutics and Pharmacology) in the chair

A Special Discussion on Trench Nephritis will be opened by Dr Langdon Brown Sir William Osler Sir Wilmot Herringham Mr Mackenzie Wallis, Dr Galloway Dr R G Abercrombie and Dr W Mair will speak

N B—Members of other Sections interested in the subject are specially invited to be present

Wednesday Feb 16th.

HISTORY OF MEDICINE (Hon. Secretaries—Leonard G Guthrie J D Rolleston): at 5 P M.

Books MSS, &c on view at 4.30 P.M

Papers

Mr C E Wallis: Marat

Mr Percy Dunn An Oculist of XVI *Century* (Andreas Laurentius)

Dr *Dan* McKenzie: Folk Cures by *Constriction* and Rings with a digression into the Nature of the Soul.

Dr C G Cumston (Geneva): *Portrait of Paracelsus.*

Thursday Feb 17th.

DERMATOLOGY (Hon Secretaries—A M H Gray J F R McDonagh): at 5 P M

Exhibition of Cases (at 4.30 P M)

Friday Feb 18th.

OTOLOGY (Hon Secretaries—W M Mollison F D D [illegible]) at 5 P M

Cases and Specimens

Will be shown by Mr Sydney Scott, Dr Dan McKenzie Mr Mollison and others

Short Communication

Dr Dan McKenzie: Otogenic Facial Paralysis

ELECTRO THERAPEUTICS (Hon Secretaries—S Gilbert Scott E P Cumberbatch): at 8.30 P.M.

CLINICAL MEETING

Cases will be shown also skiagrams and new apparatus.

LONDON DERMATOLOGICAL SOCIETY, St *John's Hospital* 49 Leicester-square, W C

TUESDAY—4.30 P M Cases sent for Consultation Demonstration of Pathological Specimens *Clinical Cases will be shown by* Dr J L Bunch Dr M Dockrell, Captain W Griffith Dr W K Sibley Dr C Kempster and Captain C H Mills 5 30 P M Paper—Dr W K *Sibley: The Treatment of Scars*

ROYAL MICROSCOPICAL SOCIETY, 20 Hanover-square W

WEDNESDAY—8 P.M Mr Heron Allen Mr A. Earland and Mr C F Rousselet On the Progress and Development of Vision and Definition under the Microscope. Demonstration—Mr J E Barnard: *An Experiment with the Ultra microscope*

MEDICO PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN *AND IRELAND* 11 Chandos-street, Cavendish square W

THURSDAY—11 15 A.M *Educational Committee* 12 noon Parliamentary Committee 12.30 P M Library Committee 1.45 P M., Council Meeting 2.45 P M General Meeting Paper:—Dr G M *Robertson: The Employment of Female Nurses in the* Male Wards of Mental Hospitals

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

ROYAL COLLEGE OF SURGEONS OF ENGLAND Lincoln's Inn Fields, W C

Course of Lectures on the Anatomy of the Human Body *for First aid* and Ambulance *Students (open to all members of ambulance companies* and first-aid classes):—

MONDAY WEDNESDAY AND FRIDAY—6.30 P M Prof A. Keith 4 P M to 7 P M. Exhibition of Anatomical Preparations and *Specimens in the Theatre on lecture days* and between 10 A M and 5 P M in the Hall of the Museum on the following day

POST-GRADUATE COLLEGE West London Hospital Hammersmith road, W

MONDAY—2 P.M., Medical and Surgical Clinics. X Rays Mr Gray: Operations Mr B Harman: *Diseases of the Eye. Dr Simson:* Diseases of Women.

TUESDAY—2 P M Medical and Surgical Clinics X Rays Mr Addison: Operations. Dr *Banks Davis: Diseases of the Throat,* *Nose* and Ear Dr Pernet: Diseases of the Skin

WEDNESDAY—10 A.M Dr Saunders: Diseases of Children. Dr Banks Davis: Operations of the Throat, *Nose* and Ear 2 P M Medical and *Surgical Clinics X Rays. Mr Pardoe: Operations* Dr Simson: Diseases of Women.

THURSDAY—2 P.M Medical and Surgical Clinics X Rays Mr Gray: Operations Mr *B Harman: Diseases of the Eye*

FRIDAY—*10 A.M.* Dr Simson: Gynæcological Operations 2 P.M., Medical and Surgical Clinics X Rays Mr Addison: Operations Dr Banks Davis: *Diseases of the Throat, Nose* and Ear *Dr Pernet: Diseases* of the Skin

SATURDAY—10 A.M. Dr Saunders: Diseases of Children. Dr Banks Davis: Operations of the Throat, *Nose* and Ear Mr B Harman: Eye Operations 2 P.M. Medical and Surgical Clinics X Rays Mr Pardoe: Operations.

NORTH EAST *LONDON POST GRADUATE* COLLEGE *Prince of* Wales's General Hospital, Tottenham N

MONDAY—Clinics:—10.30 A.M Surgical Out patients (Mr E Gillespie) 2.30 P M Medical Out *patients (Dr T R Whipham):* Gynæcological Out-patients (Dr Banister) 3 P.M., Medical In patients (Dr R M. Leslie)

TUESDAY—2.30 P M Surgical Operations (Mr Carson) *Clinics:*—Medical Out *patients* (Dr A. G Auld) Surgical Out patients (Mr Howell Evans) Nose Throat and Ear Out patients (Mr C H Hayton) Radiography (Dr *Metcalfe*) 3.30 P.M., Medical In-patients (*Dr A J Whiting*)

WEDNESDAY—Clinics:—2.30 P M Throat Operations (Mr C H Hayton) Children Out patients (Dr T R Whipham): Eye Out patients (Mr R. P *Brooks*) Skin Out patients (Dr H W Barber) 5.30 P M Eye Operations (Mr R. P Brooks)

THURSDAY—2.30 P M, Gynæcological Operations (Dr A. E. Giles) Clinics:—Medical Out patients (*Dr A. J Whiting*): Surgical Out patients (Mr Carson) Radiography (Dr *Metcalfe*) 3 P.M., Medical In patients (Dr R. M Leslie)

FRIDAY—2.30 P M., Surgical Operations (*Mr Howell Evans*) *Clinics:*—Medical Out-patients (Dr A. G Auld) Surgical Out-patients (Mr R. Gillespie); Eye Out patients (Mr *R. P Brooks*)

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN 49 *Leicester*-square W C

TUESDAY—6 P M *Dr W Griffith: The Treatment of Diseases of* the Skin.

THE THROAT HOSPITAL, Golden square, W

MONDAY —5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY —5.15 P.M., Clinical Lecture.

ROYAL INSTITUTION OF GREAT BRITAIN Albemarle-street Piccadilly W

TUESDAY —3 P.M., Prof C S Sherrington Nerve Tone and Posture. (Lecture V)

For further particulars of the above Lectures &c., see Advertisement Pages

The following magazines, journals, &c. have been received — Bulletin of the Johns Hopkins Hospital, West London Medical Journal American Journal of Obstetrics Pediatrics American Journal of Orthopedic Surgery Practitioner Military Surgeon Archives of Internal Medicine Parasitology Revista de Medicina y Chirugia de la Habana Brain, British Journal of Surgery Revue d'Hygiene et de Police Sanitaire, Midland Medical Journal Calcutta Medical Journal, Indian Medical Record Indian Medical Gazette Quarterly Journal of Medicine, Transactions of the Society of Tropical Medicine and Hygiene Journal of State Medicine Clinique Ophtalmologique, British Dental Journal Edinburgh Medical Journal Annali di Medicina Navale e Coloniale Public Health St. Bartholomew's Hospital Journal St Thomas s Hospital Gazette Ophthalmology Archives of the Middlesex Hospital, Man, North American Review Biochemical Journal Journal of Laryngology Rhinology and Otology American Journal of Medical Sciences, Journal of Tropical Medicine and Hygiene.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed " To the Sub Editor "

Letters relating to the publication sale, and advertising departments of THE LANCET *should be addressed " To the Manager '*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title page to Vol. II of 1915 were given in THE LANCET of Dec 25th 1915

VOLUMES AND CASES.

VOLUMES for the second half of the year 1915 are now ready Bound in cloth, gilt lettered, price 16*s* carriage extra.

Cases for binding the half year s numbers are now ready Cloth, gilt lettered, price 2*s* by post 2*s* 4*d*

To be obtained on application to the Manager, accompanied by remittance

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices 423 Strand, London W C, are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies &c., should be sent to the Agent to whom the subscription is paid, and not to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

ALTERATION OF INLAND SUBSCRIPTION RATES

OWING to the alteration in the Inland Newspaper Postal rate, the postage on each copy of THE LANCET will in future be 1*d* , and sometimes 1½*d*

The revised Inland Subscription rates are —

One Year	£1 3 3
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Three Months	0 7 0

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Three Months	0 7 0

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W C

TO COLONIAL AND FOREIGN SUBSCRIBERS

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

NEWSPAPERS FOR NEUTRAL COUNTRIES

THE Secretary of the War Office has issued the following order —

> The public are informed that on and after Saturday, November 6th, newspapers, magazines, books, and other printed publications (other than trade circulars) will not be sent forward to neutral European countries unless posted direct from the office of publishers or newsagents who have obtained permission from the War Office for this purpose Persons desiring to send newspapers, &c , to neutral European countries should, therefore, give their orders for execution to publishers or newsagents who have obtained such permission

The Publisher of THE LANCET has obtained the required permission of the War Office, and he will forward copies direct from the Office to any neutral country on receipt of instructions

ADVERTISEMENT RATES

Books and Publications Official and General Announcements Trade and Miscellaneous Advertisements and Situations Vacant	Five lines and under	4*s* 0*d*

Every additional line 6*d*

Situations Wanted First 30 words, 2*s* 6*d*

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Quarter Page, £1 10*s* Half a Page, £2 15*s*

Entire Page £5 5*s*

Special terms for Position Pages

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, Feb 9th 1916.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks
Feb 3	29·600	S W	—	57	51	41	45	47	Raining
4	29·930	S W	0·37	61	51	47	45	47	Raining
5	29·690	W	0·10	77	50	42	41	42	Cloudy
„ 6	29·900	S W	—	55	52	42	43	44	Overcast
7	29·8[illegible]	W	0·03	[illegible]	47	42	42	45	Cloudy
8	29·814	S W	—	63	45	37	36	37	Fine
9	29 51	S W	—	60	43	32	31	32	Fine

Communications, Letters, &c, have been received from—

A.—American Medical Publishing Co, New York Managing Editor of Mr F Aldridge, Lond. Ardath Tobacco Co, Lond. Mr F W Alexander Lond Dr Alfred Ashby Reading Messrs Adlard and Son Lond. Messrs Claudius Ash Sons, and Co Lond Dr R Armstrong Jones Woodford Bridge

B—Fleet-Surgeon P H Boyden, R.N Chatham Dr G S Brock Rome *British Medical Journal* Lond. Manager of British Thomson Houston Co Lond Mr Wm Bryce Edinburgh Messrs Burroughs Wellcome and Co, Lond Messrs Burgoyne Burbidges and Co Lond Dr George S Banks Aberdeen Dr F E Batten Lond Mr J E Burton, Plymouth Mr Henry Bazett Lond. Sir Lauder Brunton Bart Lond. Professor W Blair Bell Liverpool Messrs Butterworth and Co Lond. Borough Hospital Birkenhead Matron of Messrs W H Bailey and Son Lond. Bury Infirmary Secretary of Mrs K Behnke Lond

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F—Messrs F H Faulding and Co, Lond Factories Chief Inspector of Lond Dr R Fortescue Fox Lond, Dr Martin Ficker, Lond.

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J—Mr D F Johnson Newport Isle of Wight J S T

K—Messrs H S King and Co Lond Miss A. H P Kirby Lond

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T—Dr C E Thornton Lond Dr John Tatham Old Oxted Dr C H Tattersall Salford Mr M Taylor Shenstone Mr E C Taylor, Lond Dr J L. Todd

V—Lieutenant J A Venning R.A.M C France; Veterinary Director-General Ottawa M Vigor Lond

W—Messrs Willows Fran Butler and Thompson, Lond. Mr E H Worth Lond. Captain A G Watkins R.A.M.C France Mr David Williams Blaenclydach Messrs A B and F Willis Lond. Dr R. Prowse White Wigan West London Hospital Post Graduate College Dean of Dr Charles Watson Edinburgh Mr Edward West Birmingham West Ham and Eastern General Hospital Secretary of Mr E S Weymouth Lond

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Allen and Hanburys Lond., Dr C Adam Elgin Dr E L. Ash, Lond A. I Broadstairs Dr T D Acland Lond.

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J—Mr W Jones Liverpool; J F Dr D O Jones Newport M - J H W Dr R Jardine Glasgow

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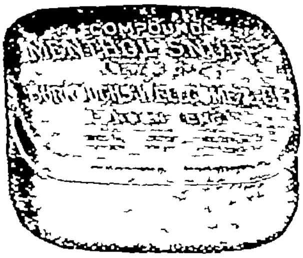

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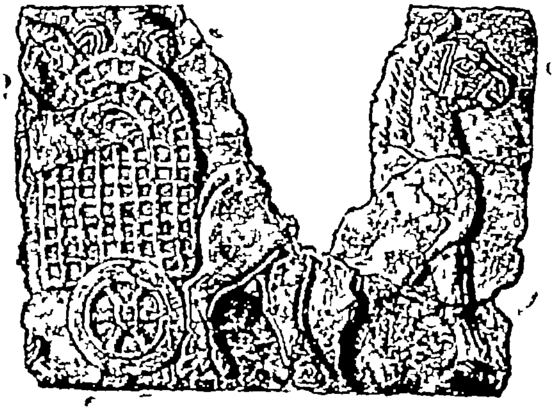

Much of the power of the Hittite arms lay in the skill and numbers of their chariotry Ancient Egyptian reliefs show the chariots of the Hittites bearing three men as compared with two carried by the Egyptian cars and it is probable the Hittites were better horsed In the fragments of primitive Hittite sculpture here reproduced only one warrior is visible Date, circa 800 B C

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ON

ULCERS NEW AND OLD JEJUNAL FOR DUODENAL ULCERS

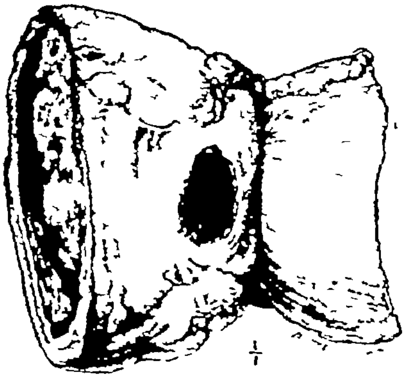
Delivered at the Royal College of Surgeons of England on Feb 4th, 1916,

By Sir JOHN BLAND-SUTTON,
F R C S Eng , LL D ,
SURGEON TO THE MIDDLESEX HOSPITAL.

Mr President and Gentlemen,—About 50 years ago the chronic duodenal ulcer was recognised as a clinical entity, and its treatment remained for many years in the province of the physician Operations were performed for the relief of duodenal ulceration by Codivilla (1893), Dean (1894), and Dunn (1895) In the first decade of the present century W J Mayo, Mayo Robson, Moynihan, Paterson, Sherren, and others opened up a new field of surgical enterprise

We know that chronic ulcer of the duodenum is a common lesion For some undiscovered reason the ulcer in the majority of instances is situated within 2 cm. of the pylorus, and as a rule on the anterior wall of the duodenum, midway between its upper and lower borders A chronic ulcer in this position is rarely accompanied by physical signs, but it sets up symptoms so easily recognised that there is no reason for resorting to the ways of Zadig in order to read them The duodenal ulcer often appears as a rounded depression in the mucous membrane with the muscular coat as its floor In many a layer of thickened peritoneum forms the base of the ulcer, occasionally it rests on the pancreas the liver, or the gall bladder An ulcer on the anterior wall of the duodenum may rest on the peritoneum covering the anterior abdominal wall (Fig 1) There is a serpiginous ulcer that persists for years creeping round the duodenum scarring at one edge and so deeply eroding at the other that the tissues forming its base are often diaphanous The peritoneal surface of the duodenal bulb in such a case is often white with scars (Fig 2) Obstruction of the pylorus frequently complicates ulcers near the pylorus it is caused by œdema of the mucosa

FIG 1

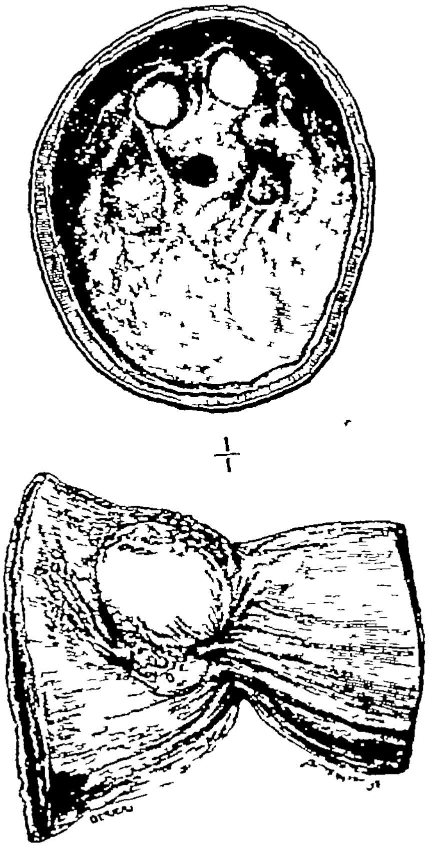


Dice-box shaped segment of the parts adjacent to the pylorus. The duodenal bulb contains a chronic ulcer The parts were excised from a spinster aged 55 who had been a dyspeptic for 30 years

This condition also occurs with an ulcer situated in the pyloric antrum. (Figs 3 and 4)

Some of the most troublesome ulcers in the pyloric region can neither be seen nor felt in the course of a gastro jejunostomy A small duodenal ulcer can only be detected when it involves the peritoneum and produces a tell tale scar These small ulcers cause paroxysmal pain and digestive discomfort, the symptoms of a vext duodenum and an agitated pylorus" This neat epigram (unearthed by Moynihan) was framed nearly a hundred years ago by Sydney Smith, the brilliant writer and preacher, who studied medicine in Edinburgh, and later in life doctored his parishioners as a rural amusement

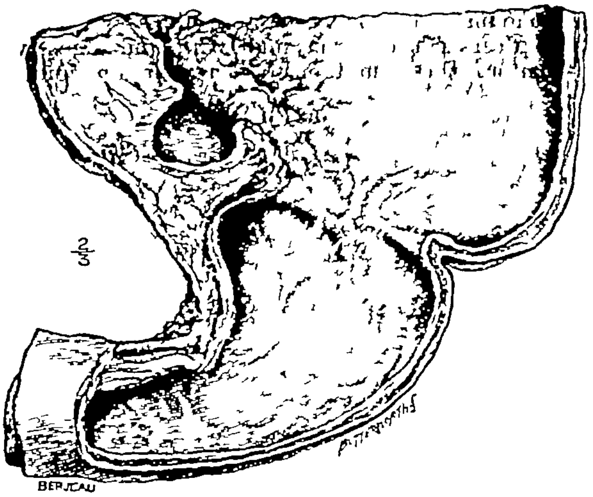
FIG 2



A gastro-duodenal cylinder There is a white scar on the anterior surface of the duodenal bulb The interior of the bulb is shown in the upper figure It contains an active ulcer and transparent patches indicate the scars of old ulceration. Excised from a woman aged 45

The chronic ulcer of the duodenum is exceptional in another feature In all regions of the body open to observation a chronic ulcer is liable to become cancerous, especially between the thirtieth and fiftieth years, this is the age incidence of duodenal ulcer We know that chronic ulcers of the leg, lupus patches, and gastric ulcers occasionally become cancerous, but this change in duodenal ulcers has never been proved, although they are some of the most chronic occurring in man I have long sought among the living, the dead, and in museums for a duodenal ulcer that has become cancerous so far my search has been unavailing Cancer arises in the duodenum, but not in the region that is the usual seat of ulceration The frequency with which gastric ulcers become cancerous and the infrequency of cancerous change in duodenal ulcers are difficult of explanation. When cancer exists in the stomach small fragments detached by the churning movements are transported with the chyme into the small intestine,

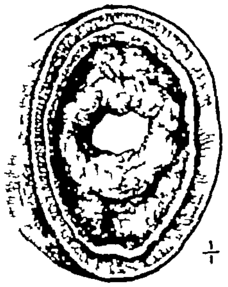
FIG 3



Pyloric segment of the stomach with a callous ulcer Excised from a dyspeptic man aged 48

but an implantation cancer in the intestine above the ileo cæcal valve is unknown Shattock suggests that shed fragments of gastric cancer would not escape tryptic digestion I agree with him

FIG 4



Pyloric orifice of the preceding specimen from the duodenal aspect It shows œdema of the mucosa

JEJUNAL ULCER (PEPTIC ULCER)

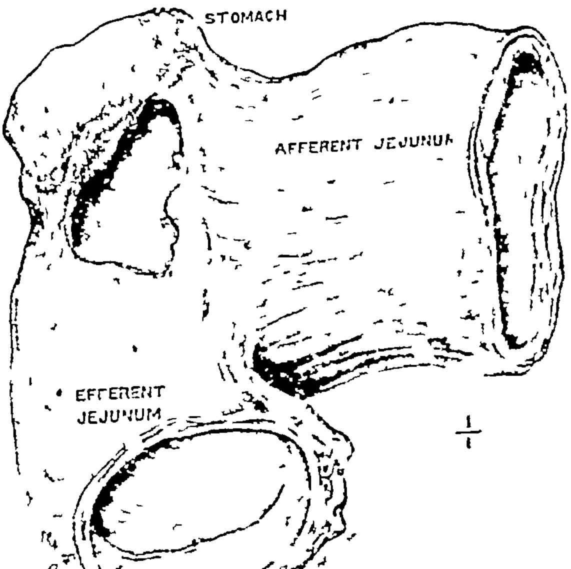
The jejunal ulcer that follows gastro jejunostomy is often called a peptic ulcer, a term implying faith in the opinion that it is produced by the action of gastric juice This ulcer was described by Braun in 1899 It resembles the common ulcers of the stomach and duodenum and has sharp edges, often so sharp as to look as if it has been punched out It is a dangerous ulcer and occasionally perforates before protective adhesions have formed, and causes septic peritonitis that often has a fatal ending Some peptic ulcers have thickened edges and run a chronic course

A peptic (jejunal) ulcer causes pain in the epigastrium aggravated by the ingestion of food The symptoms often resemble so closely those associated with a duodenal ulcer as to lead patients to complain that the pain and discomfort, for which gastro jejunostomy was performed have returned When a jejunal ulcer follows anterior gastro jejunostomy there is often an area of tenderness and sometimes a definite swelling under the upper part of the left rectus muscle This indicates that the ulcer involves the peritoneum on the anterior abdominal wall I have had two opportunities of studying the changes in the jejunum that precede the formation of a jejunal ulcer and I am able to exhibit one of the specimens

In March, 1906, I performed anterior gastro jejunostomy on a man, aged 44, for symptoms indicating the existence of a chronic duodenal ulcer. The operation relieved the man of his pain, and he remained in good health for nearly seven years Then the pain returned with great severity and on the urgent representation of his medical attendant the patient was readmitted, December, 1914, into the Middlesex Hospital He complained of pain following the ingestion of food, and there were a tender area and slight swelling under the upper part of the left rectus muscle near the costal margin I had no doubt that the man had an ulcer in the immediate vicinity of the new stoma With the help of X rays and an opaque meal the material could be seen escaping, partly through the pylorus and partly through the new stoma On opening the abdomen the white scar of the original ulcer in the duodenum was visible The area of the stomach involved in the gastro jejunal junction adhered to the anterior abdominal wall, and on detaching it an irregular opening appeared in the efferent limb near the gastro jejunal junction (Fig 5) The segment of stomach and the cylinder of jejunum involved in the junction were cut away The opening in the stomach was closed with silk sutures and the cut ends of the jejunum were joined end to end The man recovered easily and quickly The changes that have taken place in the tissues of the jejunum adjacent to the new stoma are remarkable Normally the mucous membrane of the jejunum is thick and thrown into folds, the familiar valvulæ conniventes (Fig 6), but in this specimen the jejunal mucous membrane in the vicinity of the new stoma is thin, the valvulæ are effaced (Fig 7), and the muscular coat is thin and transparent The hole occupies the efferent limb of the jejunum just beyond the cicatrix marking the union of the stomach and gut

A consideration of the structural alterations of the jejunum in the neighbourhood of the new stoma resulting from gastro jejunostomy leads to some conjectures of high interest There are no valvulæ

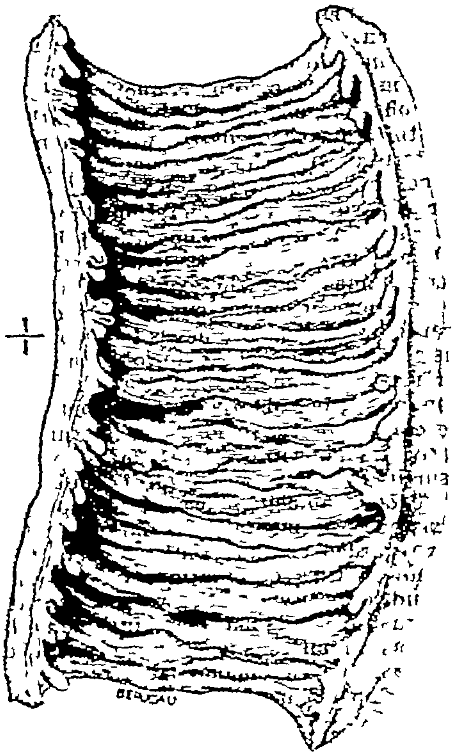
FIG 5



The limb of jejunum concerned in an anterior gastro-jejunostomy A peptic ulcer is seen in the efferent limb

conniventes in the first 4 or 5 cm of the duodenum and its wall is thinner than in the remaining portion it is often dilated and forms the bulbus duodeni A remarkable transformation occurs in the jejunum when the escape of chyme from the stomach is transferred, in consequence of gastro jejunostomy, directly into the jejunum The wall of the jejunum receiving the impact of chyme ejected through the new stoma becomes attenuated, the valvulæ disappear, and the jejunal walls assume the peculiarities of the supra ampullary segment of the duodenum. This change entails a liability to

FIG 6.



Portion of the je unum laid open to show the valvulæ conniventes

ulceration so common in duodenum. Thus surgery, by changing the environment of a segment of the jejunum, has evolved during this generation a new variety of ulcer The time required to induce a segment of the jejunum to assume the characters of the supra ampullary portion of the duodenum will probably be determined by subsequent observations

It is the common opinion that the duodenal ulcer is caused by the impinging of acid chyme ejected through the pylorus on to the wall of the duodenum The features surrounding the origin of a jejunal ulcer following gastro jejunostomy seem to support the percussion theory, but so far discussions on the *mode of origin of gastric and duodenal ulcers* pay but little regard to the influence of bacterial action Most of us believe the stomach to be amicrobic as long as it can expel its contents, but observations on the fluid found in the abdominal cavity of patients with perforated gastric and duodenal ulcers prove that it often swarms with pathogenic micro organisms especially streptococci. These are introduced with food and especially milk, wittily described as ' our most polluted article of diet

It is noteworthy that a jejunal ulcer is rarely seen as a sequel to gastro jejunostomy performed for the relief of cancer of the stomach This may be explained on the ground that such patients rarely survive the operation long enough to permit a jejunal ulcer to form It is established that a peptic jejunal ulcer' may make its appearance six months after a gastro jejunostomy, or be delayed ten years

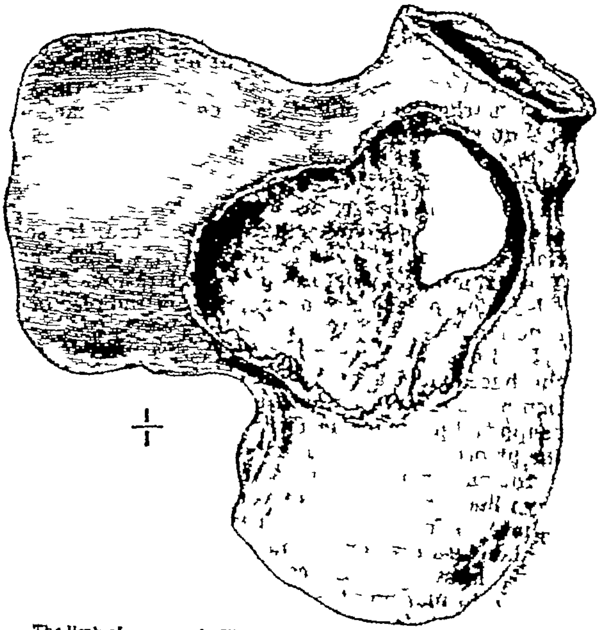
Some surgeons attribute these secondary ulcers to faults of technique, or a method of suture different from that employed by the surgeon who criticises the report, or the suture fails to completely control the bleeding from the cut edges of the gastric or the jejunal mucous membrane and an hæmatoma forms There is very little evidence available for the incrimination of silk or linen threads, persistent sutures have rarely been found associated with secondary jejunal ulcers

INDIRECT OPERATIONS ON THE VISCERA.

Few things are more remarkable in the history of surgery during the last quarter of the nineteenth century than the origin and development of operations on the viscera. This advance was the outcome of two discoveries—anæsthesia and antisepsis Surgical boldness and dexterity have always been available, but after the discovery of anæsthesia surgical rashness knew no bounds, but sepsis curbed it Since the detection of the cause of sepsis and the discovery of means for preventing it surgical enterprise has been safeguarded

In dealing with the viscera surgeons advanced tentatively The effects of the removal of a particular viscus, or even a portion of it, on the physical efficiency of the individual were unknown The internal reproductive organs of women were regarded with almost fetish reverence. Instead of removing the uterus when occupied by fibroids, surgeons removed the ovaries, with the hope of establishing an artificial menopause and inducing the fibroids to shrink. *Gradually men realised that* the ovaries are the dominant organs of sexual life So with the prostate Ignorant that a big prostate could be enucleated, surgeons actuated by false ideas as to the effects which followed removal of the ovaries, excised the testicles or divided the vasa deferentia, with the hope of causing the *prostate to* atrophy.

FIG 7



The limb of jejunum in Fig 5 opened from behind to show the almost complete effacement of the valvulæ conniventes.

In the case of the intestinal tract, surgeons were content to make an artificial anus in order to relieve obstruction caused by cancer of the colon or of the anus In 1891 Bryant, in the course of making an artificial anus, stumbled on a cancerous constriction, and the operation ended as an impromptu colectomy. Since that event resection of the bowel and short-circuiting have reduced colostomy to the position of an operation of despair!

The class of operations just considered may be called indirect operations; they may relieve the patient, but do not remove the disease. To this class gastro-jejunostomy for the relief of duodenal ulcer may be added. It is admitted that the most favourable conditions for gastro-jejunostomy are a pylorus blocked by an inflammatory mass, and a stomach with muscular tissue sufficiently vigorous to propel the chyme through the new stoma. A dilated stomach with an unobstructed pylorus is so unfavourable for gastro-jejunostomy that surgeons are at their wits' end to devise means for closing the pylorus, not only to compel the chyme to take the new route, but also to hinder an efflux of bile through it into the stomach. With an unobstructed pylorus gastro-jejunostomy cannot be relied on to cure a chronic duodenal ulcer, and as it exposes patients to the discomforts and risks of regurgitant vomiting and jejunal ulcers I have gradually abandoned it as a routine method, and prefer to excise the pylorus and the segment of duodenum containing the ulcer.

THE PYLORUS.

It is difficult to describe with certainty the functions of the pylorus. That it delays the efflux of chyme cannot be denied, but the rapidity with which a foreign body is discharged from the stomach into the intestine indicates that its controlling influence is by no means great. Smooth foreign bodies under an inch in diameter when swallowed are soon propelled through the pylorus. In the course of operations the normal pylorus when first exposed is usually firmly contracted. A few minutes later it dilates and, except for the vein that marks the boundary between the stomach and the duodenum, the pyloric sphincter is not easily seen. When the pylorus is excised it usually admits the index finger easily, but after the parts have been immersed in preservative fluids such as a mixture of alcohol and water, or formalin solution, they contract and the orifice is quite small. The examination of museum preparations gives a false idea of the size of the pylorus and also of its function.

I believe the pylorus is extremely sensitive. Like the buccal and anal sphincters, it gives no indication of its existence unless chapped or ulcerated. A chapped lip makes feeding painful; an ulcer near the pylorus makes digestion an ordeal; and an ulcer at the anus makes defæcation a daily terror! One day I had stretched the anal sphincter of a man to relieve pain caused by an ulcer. Crossing the garden with my house surgeon shortly afterwards I asked him which he considered more painful, a chapped lip or a fissured anus. He replied, "I don't know, for at the present moment I've got both!"

Duodenal ulcers may be mere dimples in the mucous membrane, others (miscalled fissures), deeply eroded pits, or narrow ulcers extending through the mucosa to the muscular tissue. It is conceivable that when irritated by the passage of acid chyme a spasm is set up producing painful sensations.

The common form of dilated stomach, nicknamed splashy stomach, and which was mainly responsible for bringing routine gastro-jejunostomy into disrepute, is worth some attention; I believe it is caused in some cases by spasmodic closure of the pylorus. Just as the small painful ulcer or fissure of the anus leads to irritative action of the anal sphincter, often ending in dilatation of the rectum and the pelvic colon, so repeated spasmodic contraction of the pyloric sphincter will produce dilatation of the stomach. Convinced of this correlation of events, I have excised the pylorus in such cases with good consequences, but on the whole the conditions which give the best results to this mode of treatment are those in which there is a gross lesion at the pylorus.

Excision of the pylorus cannot be regarded as a serious physiological loss. Removal of the pyloric half of the stomach or of the whole stomach does not interfere with the nutrition of the body. I removed the stomach from a woman, aged 35, for cancer. She survived the operation three and a half years. A year after the operation she reported herself, and at that time was in excellent health. She complained that she could not eat so big a meal as her husband, but she made up the difference by "eating two meals to his one."

It is surmised that the pyloric sphincter hinders the premature escape of undigested food into the duodenum. It has also been suggested that spasmodic closure of the pylorus, originating reflexly from the ileum, is protective against overloading the small intestine with insufficiently digested food. This is amusing, for the idea presupposes the existence of mentality in bowels, a function usually regarded as the exclusive property of the cerebrum. Keith's observations on the islets of ganglionic nerve tissue in the walls of the intestine suggest that thoughts may arise in a man's bowels as well as impulses suggesting ideas. Perhaps Menenius Agrippa's famous fable of "The Belly and the Members" has some foundation in fact.

THE TECHNIQUE OF PYLORECTOMY.

When the conditions are favourable, excision of the pylorus, to surgeons accustomed to intestinal operations, is a simple matter. Favourable conditions mean a narrow and elongated pyloric segment of the stomach and the absence of adhesions between the pylorus and the liver, or the pancreas, or the transverse colon. The disparity in thickness of the gastric and duodenal walls is embarrassing to the operator, but with practice the difficulty disappears. Extensive adhesions to the pancreas or to the liver are a bar to pylorectomy. The supra-ampullary segment of the duodenum is occasionally much shorter than usual, and makes the suture of the cut end of the stomach to the duodenum a difficult proceeding.

In the method I employ the abdomen is opened by a median supra-umbilical incision. The parts in the neighbourhood of the pylorus are examined in order to verify the diagnosis. The condition of the stomach is investigated, as well as that of the gall-bladder. When the conditions are favourable for pylorectomy the vessels are clamped and stripped from the pyloric region of the stomach, the loose tissue between the supra-ampullary portion of the duodenum and the pancreas carefully detached, and all bleeding vessels secured with forceps. When the pylorus is sufficiently freed from its attachments a clamp is applied to the stomach, about 5 cm. from the pylorus, the duodenum is clamped beyond the situation of the ulcer, and the pylorus excised. This is the best stage of the operation in which to ligature the vessels, as they are well exposed and easily accessible.

The cut edges of the duodenum and stomach are sutured in the manner of an end to end anastomosis I always use thin sterilised silk for this purpose and for ligatures It is tedious and unnecessary to describe in detail the methods available for sewing the cut end of the duodenum to the hole in the stomach. It is like stitching a sleeve in a shirt, the clever sempstress varies her methods according to the material and the size of the garment So with the surgeon. In a case of extensive resection (Fig 3) the line of suture in the stomach was 6 inches across Not wishing to imperil the safety of such a long line of suturing by joining the duodenum to it, I implanted the cut margins of the duodenum into a fresh opening in the posterior wall of the stomach In spite of the careful ligature of vessels there is usually some post-operative oozing from the tissues in the wound area, and it is wise to drain for 48 hours The abdominal wound is closed with through and through sutures, the fascia being brought into apposition with intermediate sutures of thin silk

The first patient I submitted to pylorectomy for duodenal ulcer was a woman, aged 35, at the Middlesex Hospital in 1909 Gastro jejunostomy had been performed three months previously, but the pain remained unrelieved. I excised the pylorus and the segment of the duodenum containing the ulcer She made a quick and uneventful recovery I have since lost sight of this patient A few days later, when operating on a man for a duodenal ulcer, I found the conditions so favourable for pylorectomy that I excised the pylorus and the bulbus duodeni with the ulcer Six years later I re examined him with the help of X rays and an opaque meal, and found the gastric efflux satisfactory

I have excised the pylorus for chronic duodenal ulcer according to the method described in 20 patients In three of them I had previously performed gastro jejunostomy In one the symptoms returned three months after the gastro jejunostomy, in another six years, and in a third two years One patient, the sixteenth in the series, died He was a man aged 38, transferred from Dr Essex Wynter's ward to mine with typical symptoms of chronic duodenal ulcer At the operation an ulcer was found close to the pylorus on the anterior wall of a well marked bulbus duodeni I departed from my usual method and sewed the cut edges of the mucous membrane with catgut The man made good progress until the fifth day, when his temperature rose to 103° F, he died on the nineteenth day after the operation The suture line had sloughed in two spots I attribute this unfavourable result to the use of catgut

SUMMARY

Since the treatment of duodenal ulcer passed into the province of surgery it has become the routine practice to perform gastro jejunostomy for its relief in the hope that by diverting the chyme through the new stoma into the jejunum the ulcer will heal If the pylorus is obstructed by the ulcer the results are usually good, because the chyme must pass through the new stoma, but when the pylorus is patent the chyme flows through it and in some instances ignores the new route The efflux can be watched with the help of an opaque meal and X rays I believe it is better whenever practicable to excise the pylorus with the ulcerated portion of the duodenum and rejoin the stomach and duodenum on the principle of an end to end anastomosis If this method could be made safe gastro jejunostomy for the relief of chronic duodenal ulcer with an *unobstructed* pylorus would soon be abandoned

Experience proves that posterior gastro jejunostomy with an *obstructed* pylorus is a beneficent operation, in spite of the risk the patient runs of getting a new ulcer for an old one The new ulcer has been evolved in this generation by alterations in the environment of the jejunum brought about by surgery

TRENCH NEPHRITIS[1]

BY W LANGDON BROWN, M D CANTAB, F R C P LOND,

ASSISTANT PHYSICIAN ST BARTHOLOMEW'S HOSPITAL PHYSICIAN METROPOLITAN HOSPITAL CAPTAIN R.A.M.C (T F)

IN May last the Medical Research Committee, at the request of the Director General of the Army Medical Services, made arrangements for a number of cases of trench nephritis to be investigated in wards under my care at the St Bartholomew's Hospital Section of the 1st London (City of London) General Hospital More than 100 cases have been under my care, but of these only 58 were specially investigated

It is difficult to choose a name for the condition which shall not beg the question of its origin "Epidemic nephritis" assumes what I am trying to prove "Trench nephritis" is not strictly accurate, since I have had cases among orderlies from base hospitals, and others who have not been in the trenches Still, the condition cannot be said to be prevalent outside the trenches, so the name will serve

Acute nephritis is not a common disease in civil practice, it is not possible to give exact figures, since it is not a notifiable disease, but Sir Wilmot Herringham found that at St Bartholomew's Hospital, with an average number of 7000 medical admissions a year only 166 cases of acute nephritis, 120 being males, were admitted during nine years I found that in a period of five years only 26 cases occurred here in men of military age

Now whereas typhoid and dysentery have in the past dogged most campaigns, acute nephritis, as a rule, has not I have not been able to find that it was prevalent in the Franco Prussian War, the Chino Japanese War, the Soudan War, the Hispano American War, or the Russo Japanese War It was certainly rare in the South African War Thus, the late Dr Washbourn reported that "acute nephritis was singularly infrequent" At Deelfontein there were only 6 cases of acute nephritis Dr Tooth reported that at the Portland Hospital they *only* saw 3 cases, and in these the kidney lesion was almost certainly not acquired during the campaign Personally, I did not see a single case in South Africa.

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[1] Being an Introduction to a discussion held by the Medical and Therapeutical Sections of the Royal Society of Medicine on Feb 15th

The class of operations just considered may be called indirect operations, they may relieve the patient, but do not remove the disease To this class gastro jejunostomy for the relief of duodenal ulcer may be added It is admitted that the most favourable conditions for gastro jejunostomy are a pylorus blocked by an inflammatory mass, and a stomach with muscular tissue sufficiently vigorous to propel, the chyme through the new stoma A dilated stomach with an unobstructed pylorus is so unfavourable for gastro jejunostomy that surgeons are at their wits' end to devise means for closing the pylorus, not only to compel the chyme to take the new route, but also to hinder an efflux of bile through it into the stomach With an unobstructed pylorus gastro jejunostomy cannot be relied on to cure a chronic duodenal ulcer, and as it exposes patients to the discomforts and risks of regurgitant vomiting and jejunal ulcers I have gradually abandoned it as a routine method, and prefer to excise the pylorus and the segment of duodenum containing the ulcer

The Pylorus

It is difficult to describe with certainty the functions of the pylorus That it delays the efflux of chyme cannot be denied, but the rapidity with which a foreign body is discharged from the stomach into the intestine indicates that its controlling influence is by no means great, Smooth foreign bodies under an inch in diameter when swallowed are soon propelled through the pylorus In the course of operations the normal pylorus when first exposed is usually firmly contracted A few minutes later it dilates and, except for the vein that marks the boundary between the stomach and the duodenum, the pyloric sphincter is not easily seen When the pylorus is excised it usually admits the index finger easily, but after the parts have been immersed in preservative fluids such as a mixture of alcohol and water, or formalin solution, they contract and the orifice is quite small The examination of museum preparations gives a false idea of the size of the pylorus and also of its function

I believe the pylorus is extremely sensitive Like the buccal and anal sphincters, it gives no indication of its existence unless chapped or ulcerated A chapped lip makes feeding painful, an ulcer near the pylorus makes digestion an ordeal, and an ulcer at the anus makes defæcation a daily terror! One day I had stretched the anal sphincter of a man to relieve pain caused by an ulcer Crossing the garden with my house surgeon shortly afterwards I asked him which he considered more painful, a chapped lip or a fissured anus He replied, "I don't know, for at the present moment I've got both!"

Duodenal ulcers may be mere dimples in the mucous membrane, others (miscalled fissures), deeply eroded pits, or narrow ulcers extending through the mucosa to the muscular tissue It is conceivable that when irritated by the passage of acid chyme a spasm is set up producing painful sensations

The common form of dilated stomach, nick named splashy stomach, and which was mainly responsible for bringing routine gastro jejunostomy into disrepute, is worth some attention, I believe it is caused in some cases by spasmodic closure of the pylorus Just as the small painful ulcer or fissure of the anus leads to irritative action of the anal sphincter, often ending in dilatation of the rectum and the pelvic colon, so repeated spasmodic contraction of the pyloric sphincter will produce dilatation of the stomach. Convinced of this correlation of events, I have excised the pylorus in such cases with good consequences but on the whole the conditions which give the best results to this mode of treatment are those in which there is a gross lesion at the pylorus

Excision of the pylorus cannot be regarded as a serious physiological loss Removal of the pyloric half of the stomach or of the whole stomach does not interfere with the nutrition of the body I removed the stomach from a woman, aged 35, for cancer She survived the operation three and a half years A year after the operation she reported herself, and at that time was in excellent health She complained that she could not eat so big a meal as her husband, but she made up the difference by "eating two meals to his one "

It is surmised that the pyloric sphincter hinders the premature escape of undigested food into the duodenum It has also been suggested that spasmodic closure of the pylorus, originating reflexly from the ileum, is protective against overloading the small intestine with insufficiently digested food This is amusing, for the idea presupposes the existence of mentality in bowels, a function usually regarded as the exclusive property of the cerebrum Keith's observations on the islets of ganglionic nerve tissue in the walls of the intestine suggest that thoughts may arise in a man s bowels as well as impulses suggesting ideas Perhaps Menenius Agrippa's famous fable of "The Belly and the Members" has some foundation in fact

The Technique of Pylorectomy

When the conditions are favourable, excision of the pylorus, to surgeons accustomed to intestinal operations, is a simple matter Favourable conditions mean a narrow and elongated pyloric segment of the stomach and the absence of adhesions between the pylorus and the liver, or the pancreas, or the transverse colon The disparity in thickness of the gastric and duodenal walls is embarrassing to the operator, but with practice the difficulty disappears Extensive adhesions to the pancreas or to the liver are a bar to pylorectomy The supra ampullary segment of the duodenum is occasionally much shorter than usual, and makes the suture of the cut end of the stomach to the duodenum a difficult proceeding

In the method I employ the abdomen is opened by a median supra umbilical incision The parts in the neighbourhood of the pylorus are examined in order to verify the diagnosis The condition of the stomach is investigated, as well as that of the gall bladder When the conditions are favourable for pylorectomy the vessels are clamped and stripped from the pyloric region of the stomach, the loose tissue between the supra ampullary portion of the duodenum and the pancreas carefully detached and all bleeding vessels secured with forceps When the pylorus is sufficiently freed from its attachments a clamp is applied to the stomach, about 5 cm from the pylorus, the duodenum is clamped beyond the situation of the ulcer, and the pylorus excised This is the best stage of the operation in which to ligature the vessels, as they are well exposed and easily accessible

The cut edges of the duodenum and stomach are sutured in the manner of an end to end anastomosis I always use thin sterilised silk for this purpose and for ligatures It is tedious and unnecessary to describe in detail the methods available for sewing the cut end of the duodenum to the hole in the stomach It is like stitching a sleeve in a shirt, the clever sempstress varies her methods according to the material and the size of the garment So with the surgeon In a case of extensive resection (Fig 3) the line of suture in the stomach was 6 inches across Not wishing to imperil the safety of such a long line of suturing by joining the duodenum to it, I implanted the cut margins of the duodenum into a fresh opening in the posterior wall of the stomach. In spite of the careful ligature of vessels there is usually some post operative oozing from the tissues in the wound area, and it is wise to drain for 48 hours The abdominal wound is closed with through and through sutures, the fascia being brought into apposition with intermediate sutures of thin silk

The first patient I submitted to pylorectomy for duodenal ulcer was a woman, aged 35, at the Middlesex Hospital in 1909 Gastro jejunostomy had been performed three months previously, but the pain remained unrelieved I excised the pylorus and the segment of the duodenum containing the ulcer She made a quick and uneventful recovery I have since lost sight of this patient A few days later, when operating on a man for a duodenal ulcer, I found the conditions so favourable for pylorectomy that I excised the pylorus and the bulbus duodeni with the ulcer Six years later I re examined him with the help of X rays and an opaque meal, and found the gastric efflux satisfactory

I have excised the pylorus for chronic duodenal ulcer according to the method described in 20 patients In three of them I had previously performed gastro jejunostomy In one the symptoms returned three months after the gastro jejunostomy, in another six years, and in a third two years One patient, the sixteenth in the series, died He was a man aged 38, transferred from Dr Essex Wynter's ward to mine with typical symptoms of chronic duodenal ulcer At the operation an ulcer was found close to the pylorus on the anterior wall of a well marked bulbus duodeni I departed from my usual method and sewed the cut edges of the mucous membrane with catgut The man made good progress until the fifth day, when his temperature rose to 103° F , he died on the nineteenth day after the operation The suture line had sloughed in two spots I attribute this unfavourable result to the use of catgut

Summary

Since the treatment of duodenal ulcer passed into the province of surgery it has become the routine practice to perform gastro jejunostomy for its relief in the hope that by diverting the chyme through the new stoma into the jejunum the ulcer will heal If the pylorus is obstructed by the ulcer the results are usually good because the chyme must pass through the new stoma, but when the pylorus is patent the chyme flows through it and in some instances ignores the new route The efflux can be watched with the help of an opaque meal and X rays I believe it is better whenever practicable to excise the pylorus with the ulcerated portion of the duodenum and rejoin the stomach and duodenum on the principle of an end to end anastomosis If this method could be made safe gastro jejunostomy for the relief of chronic duodenal ulcer with an *unobstructed* pylorus would soon be abandoned

Experience proves that posterior gastro jejunostomy with an *obstructed* pylorus is a beneficent operation, in spite of the risk the patient runs of getting a new ulcer for an old one The new ulcer has been evolved in this generation by alterations in the environment of the jejunum brought about by surgery

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TRENCH NEPHRITIS[1]

By W LANGDON BROWN, M D Cantab, F R C P Lond,

ASSISTANT PHYSICIAN ST BARTHOLOMEW'S HOSPITAL PHYSICIAN METROPOLITAN HOSPITAL CAPTAIN R.A.M.C (T F)

In May last the Medical Research Committee, at the request of the Director General of the Army Medical Services, made arrangements for a number of cases of trench nephritis to be investigated in wards under my care at the St Bartholomew's Hospital Section of the 1st London (City of London) General Hospital More than 100 cases have been under my care, but of these only 58 were specially investigated

It is difficult to choose a name for the condition which shall not beg the question of its origin "Epidemic nephritis" assumes what I am trying to prove "Trench nephritis" is not strictly accurate, since I have had cases among orderlies from base hospitals, and others who have not been in the trenches Still, the condition cannot be said to be prevalent outside the trenches, so the name will serve

Acute nephritis is not a common disease in civil practice, it is not possible to give exact figures, since it is not a notifiable disease, but Sir Wilmot Herringham found that at St Bartholomew's Hospital, with an average number of 7000 medical admissions a year only 166 cases of acute nephritis, 120 being males, were admitted during nine years I found that in a period of five years only 26 cases occurred here in men of military age

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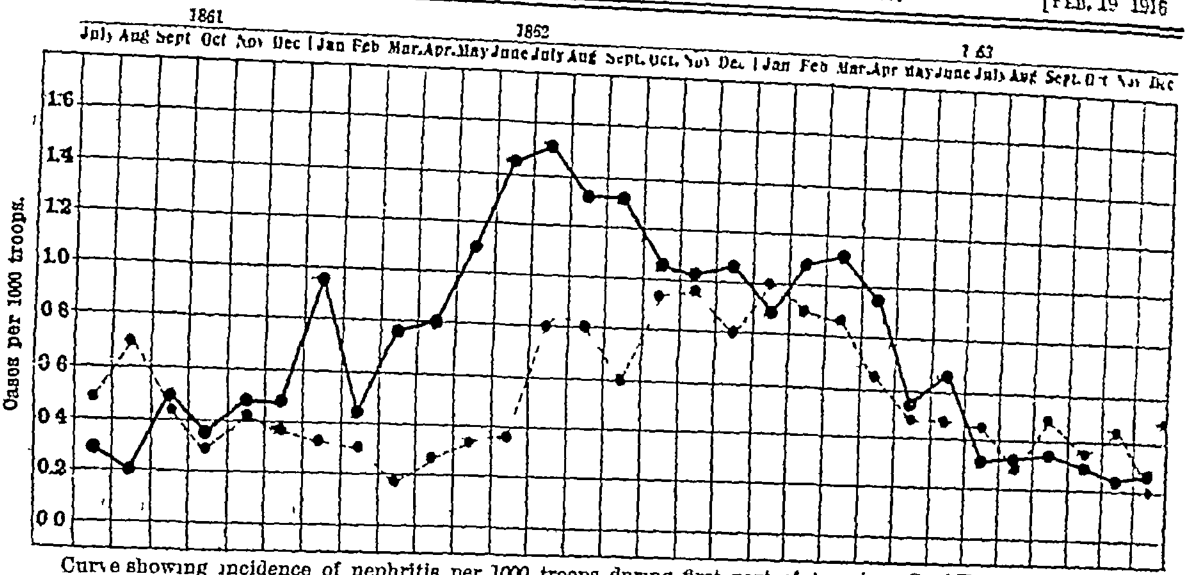

Curve showing incidence of nephritis per 1000 troops during first part of American Civil War among the Northern Armies The armies of the Central Region were attacked earlier and more severely by the disease Black continuous line = central region Dotted line = rest of army

took place between March, 1862, and March, 1863 The case incidence per 1000 troops rose earlier in the armies of the Central Region and reached a higher level than that for the rest of the army In subsequent years there was no similar rise but a small secondary one during the warmer months of 1864 In the Central Region the incidence reached 1 5 per 1000 Throughout the war there were 14,187 cases (see table) It is of great interest to recall that in the American Civil War the military conditions resembled those of the present war in some important particulars There was the sudden dash of the Confederates northwards, which was checked and followed by prolonged trench warfare

Cases of Nephritis in American Civil War in Northern Armies

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Totals	—	14,187	360

The present epidemic in the British Expeditionary Force is not assuming such dimensions as those Up to the end of June, 1915, 1062 cases had occurred Very few were reported until February, in which month 72 cases occurred, 138 in March, 220 in April, 211 in May, and 326 in June Since then the monthly returns have shown a steady increase It is interesting to note from the discussion on the subject in Vienna that there has also been an outbreak among the German and Austrian troops, and that it began about the same time as in our army

Etiology

It is a hallowed tradition in medicine that exposure is a very important cause of nephritis Yet we notice that while the troops were enduring much cold and exposure during the bad winter of 1914–15 there were but few cases of nephritis then It was not until the weather was better that the disease assumed epidemic proportions But so ingrained is the tradition that attempts were made to show that although continued cold was not responsible the violent fluctuations of temperature in the early spring played an important part I imagine that theory died a natural death as the summer came on and the number of cases increased Still as I am not sure that exposure has been given up as the cause, I will add the following arguments

When I was in Bloemfontein during the South African War I saw the mirage between 2 and 4 P.M., while by 6 30 the ground was covered with hoar frost There could hardly have been such a violent fluctuation of temperature as this in Flanders, yet, as I have already said, nephritis was rare in the South African War In the Russo-Japanese War during the month of February, 1905, the thermometer showed great differences between the minimum and maximum readings, such as from 14° to 83° F and from 26° to 75° Yet I do not read that there was an outbreak of nephritis Again, look at the incidence in the American Civil War How can a climatic cause account for an outbreak which started in March and lasted for a whole year, but which was not repeated in the subsequent years of the war? However, I made careful inquiry as to exposure in the 58 cases which were the subject of special investigation, in 20 cases the men were sure they had been specially wet before the illness began, whereas in 38 cases no such history could be obtained I doubt very much if mere exposure damages healthy kidneys On the other hand, I do think that exposure will exacerbate chronic nephritis and I have seen a return of the albuminuria in some of these cases when apparently convalescent if the patient got cold Probably the theory of nephritis starting from cold obtained currency in some such way The trend of modern research has been to discredit climate as a cause of epidemic disease, though past beliefs are enshrined in such names as malaria and influenza

Many other causes have been suggested of these the question of the water supply demands consideration first There is the possibility of the water having been derived from an unwholesome source, or that chlorination affected the water or some metallic poison might have been derived from the galvanised water carts or the water bottles My cases lend no support to any of these hypotheses the sources from which the patients had obtained water were extremely variable Moreover, some had been careful about boiling the water, others had not, in some cases the water had been chlorinated, in others it had not

Excessive protein diet has been suggested as a possible cause It seems highly improbable that 180 grammes of protein would cause acute nephritis in a number of otherwise healthy men If it did it could only be through setting up an intestinal toxæmia. Mr. Mackenzie Wallis's observations are definitely against the presence of an intestinal toxæmia, since he found neither an increase in the ethereal sulphates nor the presence of urobilin in the urine

Acidosis has also been suggested as a cause on account of the frequency with which dyspnœa occurred in the early stages of the disease It is not clear how acidosis could arise on the diet given to the troops, nor is there a general agreement that acidosis can cause nephritis Acidosis was not a constant feature of the cases with dyspnœa in which we investigated the CO_2 content of the alveolar air.

In the discussion held at Vienna on this outbreak various other causes were suggested, even including the deliberate taking of cantharides or chromic acid by soldiers in order to render themselves unfit for further service The combination of alcoholism and exposure was also suggested However plausible alcoholism might be as a cause in German troops, it would not explain the outbreak in ours Dysentery and typhoid were suggested as causes, but other speakers called attention to a lack of agreement between the curves of incidence of the intestinal and the kidney conditions Moreover, dysentery and typhoid were rife in South Africa, yet nephritis was rare Some speakers regarded the condition as an exacerbation of chronic nephritis, but this would only apply to a few cases Thus in my series there was a previous history of nephritis in only five Moreover, there is no reason to suppose that there are a larger proportion of men with damaged kidneys engaged in this war than in other wars Antityphoid inoculation has also been held responsible, but there is no evidence that the injection of immune bodies can excite nephritis, nor is this consistent with the rarity of the disease in South Africa and among the inoculated troops training at home

The French army surgeons report that there have been a certain number of instances where the disease was simulated by putting white of egg into the urine and injecting water under the skin. They have also suggested that the disease was due to a suppressed form of scarlet fever It is interesting to note that very few, if any cases have occurred among the Indian troops, and the natives of India are said to enjoy comparative immunity from scarlet fever It is also interesting to note that otitis media, so common in scarlet fever, developed just before the œdema in two of my cases Sore throat was also not uncommon at the outset, 17 of my 58 cases complained of this Mr Mackenzie Wallis has made a comparative study of trench nephritis and scarlatinal nephritis, and has shown many points of similarity both in the lesions produced and in the characters of the urine But we do not believe that the two are identical If the same percentage of nephritis occurred in this presumed suppressed scarlet fever as in the ordinary type this would mean that there had been about 10 000 cases of suppressed scarlet fever among the troops, which appears to me an impossible assumption Moreover even in "scarlatina *sine eruptione*" desquamation follows which has not been observed in these cases

A point which deserves consideration is the comparative rarity of the disease among officers.

The rapid increase in the number of cases in this war and in the American Civil War, starting about March in each case, and the close similarity between the individual cases suggest some common cause and one not operative in all wars. The simplest explanation would be a specific infection In attempting to elucidate this, our first step was to try by chemical tests whether the nephritis was of the infective or toxic type Some authorities claim that the infective type is glomerulo tubular in distribution, while a toxic nephritis, such as that produced by corrosive sublimate, is mainly tubular I may say I am rather sceptical as to the value of this distinction, but so far as it is valid our results would point to the involvement of both glomeruli and tubules I do not propose to go into details, but I may say that the tests we employed were the chloride test, the iodide test, the lactose test and the diastase test Mr J W Trevan carried out the first three and was able to show that both glomeruli and tubules were involved, and Mr Mackenzie Wallis found by the diastase test not only that there was tubular damage, but that the degree of that damage could be estimated in this way, and that the test was thus a valuable aid in prognosis The cases that have a low diastase output after the cessation of albuminuria cannot be regarded as completely recovered and are liable to relapse

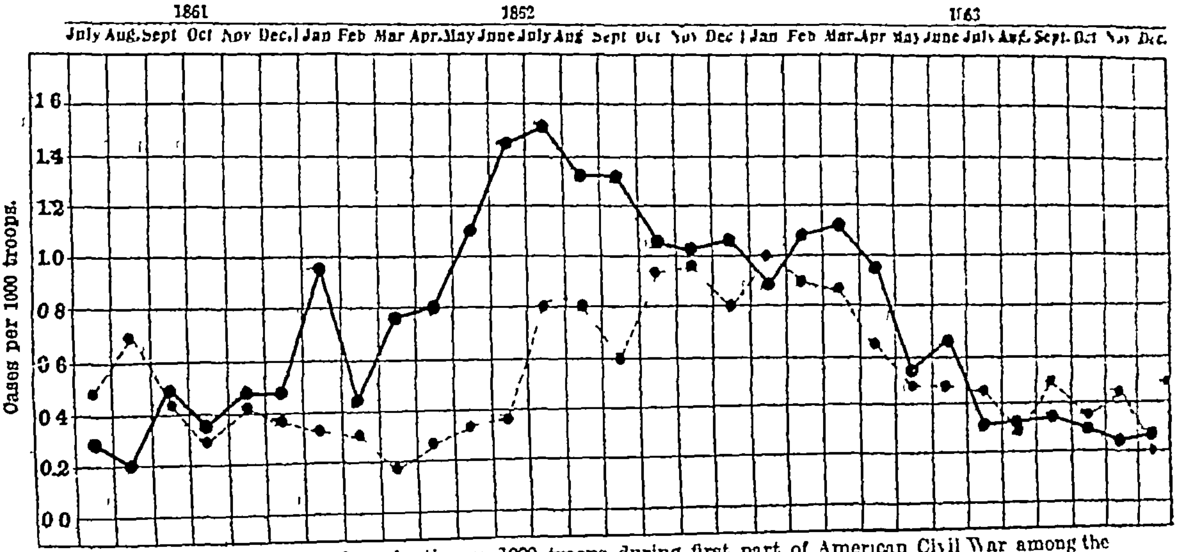
Morbid Anatomy

The morbid anatomy of the kidney in a few fatal cases was found by Professor F W Andrewes to show signs of a subacute diffuse nephritis. All the glomeruli showed evidence of inflammation, and there was extensive damage to the convoluted tubules The interstitial tissue of the kidney was œdematous and infiltrated with lymphocytes and polymorphs There was no fibrosis and no micro organisms could be found. Pyelitis was not found

Pathology

As there was thus complete evidence of glomerulo tubular changes an infective process was indicated Blood cultures were, however, sterile There remained the possibility of a local infection from which toxic products were disseminated Attention was naturally first turned to the urine. Catheter specimens were obtained in 21 consecutive cases and cultures made In 18 of these the urine proved to be sterile From the 3 remaining cases B coli were obtained, but in two of them only with difficulty I mention this specially as Klein and Pulay in Vienna and MacWalter in Ireland lay stress on B coli as the causal agent Our cultural and histological results are definitely against this conclusion.

Throat cultures.—Of the cases 17 complained of a sore throat as an early or initial symptom Tonsillitis is known to be associated with nephritis, so cultures were made from all the throats where soreness was complained of, and in several where no such complaint had been made In every instance streptococci grew in abundance, sometimes practically in pure culture Pneumococci were found in 5, and diphtheroids and micrococcus catarrhalis were also found in some cases. Before it could be concluded that the streptococci were responsible in any way, it was necessary that controls should be made, since streptococci are normal inhabitants of the throat Dr R G Canti therefore made cultures from the throats of 10 soldiers with nephritis, 10 wounded soldiers who had not got nephritis and 10 male civilian patients of military age suffering from various surgical diseases He found that the soldiers' throats were, as far as bacteriological examination went, in a healthier condition than the civilians, while the



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Course and Prognosis

On the whole it may be said that the disease has run a favourable course, although I assume that I only got the more protracted cases sent home from France A patient who developed the disease immediately after he returned from France on leave and who was admitted to hospital on the second day of the disease was free from albuminuria on the fourth day Only one of the 58 cases died, and in no other case has life appeared to be in danger Most of the cases have felt quite well as soon as the œdema subsided, though some complained of headache, cough, and digestive disturbances for a week or more Yet many of those who felt and looked quite well were still passing albumin, blood, and casts As they recovered the albuminuria often became intermittent, and there has been a curious tendency to remission and relapse Some of those who had apparently recovered and had gone to convalescent homes soon relapsed Often the patient has been able to tell from his own sensations whether the albumin has returned or increased It took as much as 14 weeks for the albuminuria to cease in some cases, and others continued to pass blood and albumin even five or six months after the onset

The diastase reaction in the urine is a valuable aid to prognosis Not only are those cases worse in which the diastase output is lowered or absent, but if the lowered output persists after the albuminuria has ceased the patient seems liable to relapse A case therefore cannot be regarded as cured until the diastase output has returned to normal, and I would suggest that it is important for this test to be done in all doubtful cases before return to duty Schlesinger is of opinion that the subjects of hæmorrhagic nephritis are no longer fit for active service, though Strasser thinks that they may still be used for less strenuous military duties On active service such patients are liable to relapse

Treatment

I will say little on this head, as I have really nothing fresh to add to our common knowledge on this As nitrogen retention is a common feature of the early cases, I have adopted a diet poor in nitrogen though varied and fairly liberal in carbohydrates and fat for limited periods in the earlier stages Sometimes this has produced distinct benefit, but sometimes it seems to make little or no difference I am convinced that prolonged nitrogen starvation is as bad for the nephritic as for anybody else

Conclusions and Suggestions

Conclusions —1 These cases are true examples of acute nephritis, as shown by (*a*) the combination of œdema with albuminous urine containing casts, (*b*) the nature of the proteins in the urine, (*c*) the tests for renal permeability, and (*d*) post mortem evidence

2 The cases have been too prevalent to be merely accidental, and the close similarity of the symptoms suggests a common cause

3 Exposure water supply, metallic poisons, or intestinal toxæmia can be excluded as the cause The prolonged cases showed a high percentage of positive Wassermann reactions

4 The curve of incidence both in this war and in the American Civil War suggests an infective agent, as does the unequal degree to which the different units were affected This is supported by the extent to which the glomeruli were involved, as shown by the chemical tests and the post mortem evidence

5 So far bacteria have not been found responsible for the infection, though more positive evidence might be obtained from earlier cases Results suggestive of a possible filter passer have been obtained, but they are not conclusive The point of entrance of the infection is possibly the tonsils and upper air passages I suggest that there is a specific organism responsible which resembles but is not identical with that causing scarlet fever

6 The outstanding clinical features of the epidemic are (*a*) The frequency with which shortness of breath occurred at the beginning, (*b*) the great variability in the duration, (*c*) the tendency to remission and relapse, and (*d*) the ultimately favourable prognosis in the majority of the cases

Suggestions —I would make the following suggestions —

1 That animal experiments with the saliva and urine from recent cases should be carried out The lack of definite evidence so far may be due either to the infective stages being over before the patients reach England or to the difficulty in inducing nephritis in the animals employed

2 That investigations should be made as to the exact distribution of the cases This might be done by means of maps on which the cases could be dotted according to the place of origin There is an impression that certain billets are particularly associated with the disease A map would afford valuable evidence as to the kind of place where the disease is contracted, and therefore as to the possible source of the infection Until this is done it would be useless to try to isolate the cases, probably they are only infectious in the early stages, and are so no longer when they reach the base hospitals Yet some may still be infectious, since orderlies at these hospitals have contracted the disease In the meantime it might be well if the urine and sputa were treated as the excreta in the cases of typhoid

3 That arrangements should be made for the urinary diastase to be estimated in doubtful cases before return to duty is allowed

I would urge that we have a remarkable opportunity of studying the pathogeny of nephritis in general and of rendering aid to the efficiency of our forces by checking a disease which incapacitates a number of otherwise healthy men The next chapter in the inquiry will have to be carried out in Flanders I feel sure that anyone investigating the disease will find, as I have done, a sympathetic helper in Dr Walter Fletcher, the secretary of the Medical Research Committee

In conclusion, I should like to express my indebtedness to the staff of the pathological department of the hospital under the direction of Professor Andrewes for their willing coöperation, and to Mr Mackenzie Wallis and Mr Trevan, who made the chemical investigations

Since writing this paper I have seen Sir John Rose Bradford s note on the subject in the *Quarterly Journal of Medicine* for January, 1916 It is gratifying to find that from a more extended number of cases he has come to conclusions practically identical with those I published in the July number of the *Journal of the Royal Army Medical Corps* throats of the soldiers with and without nephritis were closely similar He also estimated the streptococcal antibodies in the blood of some of these cases, but found no evidence of any excess, which is an argument against the existence of a recent streptococcal infection

We next made investigations as to infection by an ultra microscopic filter passer Mr Mackenzie Wallis has produced a definite illness in rabbits and monkeys after an incubation period of eight days by injections of urine, prepared so as to be free from bacteria, but containing any filter passer present These results demand consideration, even though he has not succeeded in producing nephritis, for the incubation period of eight days excludes a mere chemical cause for the illness and corresponds to the incubation period which has been estimated clinically in some cases In this connexion the results with Wassermann's reaction are of interest The reaction was positive in 18 out of 56 cases, being strongly so in 4 and feebly so in 3—i e, it was positive in practically 1 in 3—a higher proportion than that of syphilis in the army in general This may mean that men damaged by syphilis are more liable to nephritis, or that the positive reaction was not due to the spirochæta pallida, but to some other animal infection, such as a filter passer is generally assumed to be

Signs and Symptoms

I intend only to call attention to those features of the disease which seem peculiar to the present outbreak But there is one point on which it is very important that we should get evidence from those medical officers who have seen cases in the early stages There are a number of febrile conditions occurring among the troops, and it would be interesting to know whether acute nephritis is specially apt to occur among those who have had any such febrile attack Lieutenant F G Chandler, medical officer to the 2nd Argyll and Sutherland Highlanders, told me that in several cases there had been diarrhœa of sudden onset, or a temperature of 103° F, with pain in the limbs and shivering for 24 to 48 hours before he found albumin in the urine Other medical officers have reported œdema without albuminuria at all In the majority of cases the first thing that the patient noticed was the œdema, which usually started in the face and legs and remained curiously localised sometimes, though more frequently it became generalised Œdema was almost a constant feature, being present in 53 out of the 58 cases, and of the 5 in whom it did not occur 4 gave a history of previous nephritis In all my cases the œdema soon cleared up

One of the most striking points was the frequency of dyspnœa as an early symptom, it was definitely present in 49 cases Of the 9 who did not complain of it, 2 had no œdema, while the œdema was slight in 2 others As a rule, the shortness of breath started at the same time as the œdema, but did not last so long The alveolar CO_2 was determined by Mr Trevan in 5 cases during the dyspnœa In 3 it was normal, while in the remaining 2 it was reduced from the normal 5 to 3 per cent Since dyspnœa due to acidosis is always associated with reduction of alveolar CO_2, and uræmic dyspnœa is of this type, it would appear that the shortness of breath was not always associated with acidosis, uræmic or otherwise I do not think that dyspnœa is usually regarded as a common feature of acute nephritis, apart from uræmia or cardiac failure But the majority of these cases were not so ill that either the kidney or the heart was failing, and none of them showed signs of cardiac dilatation The close agreement between the onset of œdema and dyspnœa suggests that the outpouring of fluid into the lungs or pleural cavity may have been responsible for the shortness of breath This is supported by the frequency with which a cough and bronchitis also occur Some of the cases showed a return of respiratory distress after their journey from France

A slight and irregular temperature was common in the earlier stages, and was sometimes prolonged where recovery was slow The blood pressure was very variable, being raised in some cases but not in others I did not find that it was much help in prognosis, though probably the best thing is for the blood pressure to be raised at the beginning and soon to fall to normal In the discussion at Vienna, Schlesinger noted a curious fact—that in a great number of cases hypertrophy of the heart did not supervene

I noted a great variability in the amount of urine secreted Often it was markedly increased while the disease appeared to be fairly acute—i e, there was hyposthenuria or an inability to secrete a concentrated urine It was certainly a more marked feature of these cases than in the acute nephritis met with in civil practice I did not observe, even in early cases, the extreme reduction in the quantity secreted, such as is usual in ordinary acute nephritis Red blood corpuscles were found in 44 of the 58 cases, the amount was very variable The urine was sometimes bright red with blood, sometimes merely smoky, and often chemical and microscopical tests were needed to detect the blood As the hæmaturia cleared up there was frequently a flocculent reddish brown precipitate in which alone the blood could be found I was struck with the fact that in a good many cases blood continued to be poured out in some quantity long after all other acute symptoms had subsided, as though the damaged kidney continued to leak blood rather than that there was a hæmorrhagic inflammation of the kidney

There was generally a considerable number of leucocytes in the urine, just as there was leucocytic infiltration of the kidney in the fatal cases At first I thought this was a feature special to this form of nephritis, but Mr Mackenzie Wallis finds that it is equally marked in scarlatinal nephritis Casts were found in all but 3 cases, usually there was a mixture of epithelial, granular and hyaline casts Blood casts and fatty casts, on the other hand, were uncommon Crystals were rare in the urine Calcium oxalate was found twice, and crystals of uric acid once The rarity of organisms in catheter specimens has already been referred to

As to complications, fits presumably uræmic in nature occurred in 4 of the 58 cases They all made a good recovery, and I was of opinion that free venesection contributed to this recovery Mr Foster Moore examined the eyes of patients under the care of my colleagues and myself, and reported that he found retinal hæmorrhages in some of the acute cases, but that retinitis only occurred in those cases which had definitely become chronic[1] Captain Abercrombie has observed some interesting complications bearing on a possibly infective origin such as herpes and parotitis

Milkiness of the blood serum referred to by Bright in his original account of the disease was not observed in any of the 56 cases in which the blood was drawn for Wassermann's reaction, but was present in a fatal case under Major Calvert's care

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[1] THE LANCET Dec. 18th, 1915 p. 1342.

Course and Prognosis

On the whole it may be said that the disease has run a favourable course, although I assume that I only got the more protracted cases sent home from France A patient who developed the disease immediately after he returned from France on leave and who was admitted to hospital on the second day of the disease was free from albuminuria on the fourth day Only one of the 58 cases died, and in no other case has life appeared to be in danger Most of the cases have felt quite well as soon as the œdema subsided, though some complained of headache, cough, and digestive disturbances for a week or more Yet many of those who felt and looked quite well were still passing albumin, blood, and casts As they recovered the albuminuria often became intermittent, and there has been a curious tendency to remission and relapse Some of those who had apparently recovered and had gone to convalescent homes soon relapsed Often the patient has been able to tell from his own sensations whether the albumin has returned or increased It took as much as 14 weeks for the albuminuria to cease in some cases, and others continued to pass blood and albumin even five or six months after the onset

The diastase reaction in the urine is a valuable aid to prognosis Not only are those cases worse in which the diastase output is lowered or absent, but if the lowered output persists after the albuminuria has ceased the patient seems liable to relapse A case therefore cannot be regarded as cured until the diastase output has returned to normal, and I would suggest that it is important for this test to be done in all doubtful cases before return to duty Schlesinger is of opinion that the subjects of hæmorrhagic nephritis are no longer fit for active service, though Strasser thinks that they may still be used for less strenuous military duties On active service such patients are liable to relapse

Treatment

I will say little on this head, as I have really nothing fresh to add to our common knowledge on this As nitrogen retention is a common feature of the early cases, I have adopted a diet poor in nitrogen though varied and fairly liberal in carbohydrates and fat for limited periods in the earlier stages Sometimes this has produced distinct benefit, but sometimes it seems to make little or no difference I am convinced that prolonged nitrogen starvation is as bad for the nephritic as for anybody else

Conclusions and Suggestions

Conclusions —1 These cases are true examples of acute nephritis, as shown by (*a*) the combination of œdema with albuminous urine containing casts, (*b*) the nature of the proteins in the urine, (*c*) the tests for renal permeability, and (*d*) post mortem evidence

2 The cases have been too prevalent to be merely accidental, and the close similarity of the symptoms suggests a common cause

3 Exposure water supply, metallic poisons, or intestinal toxæmia can be excluded as the cause The prolonged cases showed a high percentage of positive Wassermann reactions

4 The curve of incidence both in this war and in the American Civil War suggests an infective agent, as does the unequal degree to which the different units were affected This is supported by the extent to which the glomeruli were involved, as shown by the chemical tests and the post mortem evidence

5 So far bacteria have not been found responsible for the infection, though more positive evidence might be obtained from earlier cases Results suggestive of a possible filter passer have been obtained, but they are not conclusive The point of entrance of the infection is possibly the tonsils and upper air passages I suggest that there is a specific organism responsible which resembles but is not identical with that causing scarlet fever

6 The outstanding clinical features of the epidemic are (*a*) The frequency with which shortness of breath occurred at the beginning, (*b*) the great variability in the duration, (*c*) the tendency to remission and relapse, and (*d*) the ultimately favourable prognosis in the majority of the cases

Suggestions —I would make the following suggestions —

1. That animal experiments with the saliva and urine from recent cases should be carried out The lack of definite evidence so far may be due either to the infective stages being over before the patients reach England or to the difficulty in inducing nephritis in the animals employed.

2 That investigations should be made as to the exact distribution of the cases This might be done by means of maps on which the cases could be dotted according to the place of origin. There is an impression that certain billets are particularly associated with the disease A map would afford valuable evidence as to the kind of place where the disease is contracted, and therefore as to the possible source of the infection Until this is done it would be useless to try to isolate the cases, probably they are only infectious in the early stages, and are so no longer when they reach the base hospitals Yet some may still be infectious, since orderlies at these hospitals have contracted the disease In the meantime it might be well if the urine and sputa were treated as the excreta in the cases of typhoid

3 That arrangements should be made for the urinary diastase to be estimated in doubtful cases before return to duty is allowed

I would urge that we have a remarkable opportunity of studying the pathogeny of nephritis in general and of rendering aid to the efficiency of our forces by checking a disease which incapacitates a number of otherwise healthy men. The next chapter in the inquiry will have to be carried out in Flanders I feel sure that anyone investigating the disease will find, as I have done, a sympathetic helper in Dr Walter Fletcher, the secretary of the Medical Research Committee

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Welbeck-street, W.

THE USE OF CONDENSERS IN THE DIAGNOSIS, PROGNOSIS, AND TREATMENT OF NERVE LESIONS[1]

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THE terms "faradic response," "galvanic response," "normal reaction," and "reaction of degeneration" are, of course, familiar to all. For half a century, electricity has been used as an aid to the diagnosis and prognosis of nerve lesions Men very skilled and experienced have been able to claim a fair degree of success, but failures have been numerous, so much so that not a few eminent surgeons and neurologists have stated that the method has little or no value For this latter view two facts are chiefly responsible—the utter crudity of the apparatus until recently in use, and the tendency to look upon electro diagnosis as a thing apart, and not as something to be fitted into its proper place in an ordered scheme of investigation

A current of electricity flowing through a voluntary muscle produces no visible effect so long as it remains steady When the potential is suddenly altered a "twitch" or single contraction occurs At voltages of 25 and upwards the normal muscles will respond to impulses which fall to zero in a very brief period—some thousandths of a second Other things being equal, the intensity of the contraction in a normal muscle is most affected by the voltage But in the case of a muscle which has been for some time cut off from its motor cells in the spinal cord, the time factor assumes the chief importance Voltage continues to exercise an influence, but however much it be raised the muscle will not contract unless the electric impulse lasts a certain minimal time

A faradic coil may be described as an instrument by which an evenly flowing current of low voltage is transformed into a series of short discharges of relatively high potential The voltage of the interrupted current, as led off from the secondary terminals, is determined by the intensity of the current circulating in the primary of the coil, and by the construction of the coil itself as regards number of turns of wire and other details The duration of each impulse and the number delivered per second are matters which depend upon the working of the interrupter The former was assumed by the late Dr Lewis Jones to be in the neighbourhood of 1/800th of a second, so far as its effective portion is concerned The latter varies between 20 and 50 per second As regards the duration of each impulse, however, the above estimate can only be taken as approximate, and the time may in some cases be much longer

It is often said that a given muscle "responds feebly to faradism." No particular type of coil is specified, nor is any statement made as to voltage in the primary And even if these data were given, no one can be certain, with the platinum hammers commonly in use what was the duration of the impulses used, nor—a point not without importance—the rate at which they were discharged The phenomenon described—"feebleness of reaction"—is not one about which different observers are likely to be in exact agreement In practice, of course, judgment is helped by a comparison with the sound side, if there is one, or with one s own muscles The hopelessly unscientific nature of the whole proceeding may perhaps be best appreciated by analogy with another well known means of diagnosis Conceive men using clinical thermometers without scales, filled sometimes with mercury and sometimes with spirit and having varying bores of unknown dimensions Individual physicians might, and no doubt would, become remarkably expert in the use of the particular instrument which they possessed, but records of their cases would be of only small value to other observers The faradic coil is doomed as an instrument for diagnosis, although its rapid succession of impulses and relatively high voltage must not be lost sight of in designing a successor The galvanic battery or its equivalent will probably survive, as the continuous current lends itself to exact measurement The customary record of milliamperage alone, without taking into account voltage or resistance is, however, almost worthless, to this subject I shall return later when discussing condenser discharges Even if accurately controlled, the continuous current cannot enable us to explore the whole diagnostic field which lies beyond the range of ordinary faradism, for in it are many fine shades of abnormality which call for great range and accuracy in the instruments used to detect them

The object of the foregoing remarks has been to show that, up to very recently, the first essential to the placing of electro-diagnosis on a sound footing has been absent The use of precise instruments in an agreed manner to secure definite and readily recognisable results is a condition of scientific progress The experience of one man, however learned, is never sufficient to establish a new truth unless the phenomena on which he bases his deductions can be reproduced and confirmed by his confrères The advent of the condenser system of nerve testing enables us for the first time approximately to fulfil these requirements

Let it be said at once that this system introduces no principle entirely new A condenser may be regarded as a means of storing a definite quantity of continuous current, as one might store water in an elevated reservoir If we imagine a series of reservoirs of increasing size, all containing fluid at the same level, and all having outlet pipes of the same bore, it will be obvious that the time taken by each to empty—to discharge itself—will be determined solely by its size or "capacity" In the case of condensers the material of the discharging circuit takes the place of the pipes, and the resistance of this material is the equivalent of their bore That is to say, so long as the conditions in the discharging circuit do not vary, the length of time taken by various condensers to empty themselves is proportional to their size When the resistance in the discharging circuit remains constant the amount of energy flowing in that circuit at any given instant is always the same, no matter what the size of the condenser may be but the larger the condenser the longer the flow will last If the resistance is diminished the flow of current is greater, but lasts for a proportionately shorter time A condenser, A, twice the size of another condenser B may give double the amount of current for the same length of time or give the same amount of current for double the time It cannot under any circumstances give an impulse lasting simultaneously double the length of time and an increased quantity, for such a thing would in effect be creation of energy

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5	0 08 ,,	1/4 800 ,,
6	0 125 ,,	1/3,200 ,,
7	0 25 ,,	1/1,600 ,,
8	0 33 ,,	1/1,200 ,,
9	0 5 ,,	1/800 ,,
10	0 66 ,,	1/600 ,,
11	1 0 ,,	1/400 ,,
12	2 0 ,,	1/200 ,,

a device which I need not now detail, he secured a further three grades of 1/100 1/70, and 1/30 second He found that many muscles which responded well to faradism were indeed not normal and that those irresponsive to it showed wide differences in the length of the condenser impulses which were required to excite them This time standard has been criticised on the ground that not only were longer impulses necessary to excite injured muscles but larger condensers, and that it was impossible to say which factor was the more important This criticism displays confusion of thought, for the larger condensers, as it were, use up their largeness solely in maintaining their flow of current for a longer period

The system of reckoning degrees of injury in muscles by determining the length of condenser impulse necessary to excite them is free from fallacy only so long as the voltage and resistance remain constant The former factor is easily controlled, the latter is subject to some variation Lewis Jones's assumption of a body resistance of 1000 ohms holding good approximately for all condenser impulses has not been confirmed by experience In practice, however it is nearly always possible to achieve a minimum resistance, which does not differ greatly between one person and another, by first soaking the limb in hot water (or applying hot fomentations), and then rapidly running up to high condenser numbers After several long impulses have thus been discharged a rest of one minute is given to the muscle. One then works backward until the shortest impulse is arrived at which will cause an ascertainable contraction At the Cambridge Hospital the reaction of the muscle is recorded in a kind of shorthand—thus Tibialis anticus, No 10 L J S, 100' The initials indicate ' Lewis Jones scale, and the number refers to the particular stud on the Lewis Jones instrument These numbers have been attacked as meaningless On the contrary their meaning is most precise Written at full length No 10 means that under certain standard conditions subsequently to be detailed the particular muscle investigated requires the impulse from a condenser having a capacity of 0·66 microfarad, charged at a potential of 100 volts The universal use of the numbers 1 to 15, so far from being confusing and unscientific, would, on the other hand, compel that very standardisation of instruments and uniformity of method which have hitherto been so conspicuously lacking, and which it is the chief object of this paper to advocate

The original Lewis Jones instrument for diagnosis charged and discharged its condensers by means of a metronome. The muscular contractions which it was possible to produce were therefore limited to a series of single twitches similar to those produced by making or breaking a continuous current Now, it is well known that in the old system of nerve testing the response to coil currents sometimes returns, while that to battery currents still remains feeble In coil current we have the effect of summation of stimuli, due to the rapid discharge into the muscle of a succession of impulses at a high voltage In the case of a coil none of the factors concerned can be measured In the modification of the Lewis Jones instrument which I have introduced any number of impulses can be produced between 1 and 20 per second or more 20 being the minimum number to produce tetanisation This number is recorded, the nature of the individual impulse is under control, and the voltage is known Thus an exact record can be made of the condition of a test I have not yet seen a muscle which would respond to faradism which would not respond to tetanising condenser discharges at 100 volts If such should occur, however, I have little doubt but that it would respond at some potential between that and 200

In order to obtain discharges of a longer duration than 1/200 of a second, Lewis Jones used his last three studs over again at a voltage of 200, and through a resistance of 5000 ohms The modified instrument which I have mentioned was constructed some months ago, and is arranged to make this transfer automatically, three extra studs being added for the purpose Although this is convenient, it is accomplished at a sacrifice of flexibility, and I propose having it altered so that any voltage may be used on any stud, and also a definite resistance thrown in wherever desired[2]

This may seem at first sight a contradiction of what I have said with regard to standardisation, but it must be remembered that we are not yet certain about our standards in all cases My own experience is practically confined to the upper and lower extremities In the arm a standard voltage of 100 gives excellent results in diagnosis and prognosis. In the lower limb, the same voltage has, on the whole, been satisfactory, but anomalies have been encountered Major Bailey, of Brighton, informs me that he has had several cases involving the facial muscles and the tongue, and that he has had to adopt a lower charging potential in order to obtain good results The converse appears to be sometimes the case in the lower limb, and we may perhaps have to adopt a standard voltage of 125 or 150 in testing thigh and leg muscles Meanwhile the original 100 volts may be regarded as entirely satisfactory in the upper extremity

So far I have dealt with the *standardisation of the instruments* used in electro diagnosis That

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[1] [illegible] Lewis Jones [illegible] paper Proceedings of the Royal Society of Medicine [illegible] Section of Electro-Therapeutics [illegible]

[2] The modified Lewis Jones instrument, fully equipped with all the devices found useful by the author has been placed on the market by Messrs W Watson and Sons 194 Great Portland-street W

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12	2·0 ,,	1/200 ,,

The system of reckoning degrees of injury in muscles by determining the length of condenser impulse necessary to excite them is free from fallacy only so long as the voltage and resistance remain constant The former factor is easily controlled, the latter is subject to some variation Lewis Jones's assumption of a body resistance of 1000 ohms holding good approximately for all condenser impulses has not been confirmed by experience In practice, however it is nearly always possible to achieve a minimum resistance which does not differ greatly between one person and another, by first soaking the limb in hot water (or applying hot fomentations), and then rapidly running up to high condenser numbers After several long impulses have thus been discharged a rest of one minute is given to the muscle One then works backward until the shortest impulse is arrived at which will cause an ascertainable contraction At the Cambridge Hospital the reaction of the muscle is recorded in a kind of shorthand—thus "Tibialis anticus No 10 L.J.S., 100" The initials indicate "Lewis Jones scale," and the number refers to the particular stud on the Lewis Jones instrument These numbers have been attacked as "meaningless" On the contrary their meaning is most precise Written at full length No 10 means that, under certain standard conditions subsequently to be detailed the particular muscle investigated requires the impulse from a condenser having a capacity of 0·66 micro-farad, charged at a potential of 100 volts The universal use of the numbers 1 to 15, so far from being confusing and unscientific, would, on the other hand, compel that very standardisation of instruments and uniformity of method which have hitherto been so conspicuously lacking, and which it is the chief object of this paper to advocate

The original Lewis Jones instrument for diagnosis charged and discharged its condensers by means of a metronome. The muscular contractions which it was possible to produce were therefore limited to a series of single twitches similar to those produced by making or breaking a continuous current Now, it is well known that in the old system of nerve-testing the response to coil currents sometimes returns, while that to battery currents still remains feeble In coil current we have the effect of summation of stimuli, due to the rapid discharge into the muscle of a succession of impulses at a high voltage In the case of a coil none of the factors concerned can be measured In the modification of the Lewis Jones instrument which I have introduced any number of impulses can be produced between 1 and 20 per second or more, 20 being the minimum number to produce tetanisation This number is recorded, the nature of the individual impulse is under control, and the voltage is known Thus an exact record can be made of the condition of a test I have not yet seen a muscle which would respond to faradism which would not respond to tetanising condenser discharges at 100 volts If such should occur, however, I have little doubt but that it would respond at some potential between that and 200

In order to obtain discharges of a longer duration than 1/200 of a second, Lewis Jones used his last three studs over again at a voltage of 200, and through a resistance of 5000 ohms The modified instrument which I have mentioned was constructed some months ago, and is arranged to make this transfer automatically, three extra studs being added for the purpose Although this is convenient, it is accomplished at a sacrifice of flexibility, and I propose having it altered so that any voltage may be used on any stud, and also a definite resistance thrown in wherever desired[2]

This may seem at first sight a contradiction of what I have said with regard to standardisation, but it must be remembered that we are not yet certain about our standards in all cases My own experience is practically confined to the upper and lower extremities In the arm a standard voltage of 100 gives excellent results in diagnosis and prognosis. In the lower limb, the same voltage has, on the whole, been satisfactory, but anomalies have been encountered Major Bailey, of Brighton, informs me that he has had several cases involving the facial muscles and the tongue, and that he has had to adopt a lower charging potential in order to obtain good results The converse appears to be sometimes the case in the lower limb, and we may perhaps have to adopt a standard voltage of 125 or 150 in testing thigh and leg muscles Meanwhile the original 100 volts may be regarded as entirely satisfactory in the upper extremity

So far I have dealt with the *standardisation of the instruments* used in electro-diagnosis That

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[1] Reproduced from Lewis Jones's original paper [illegible] of the Royal Society of Medicine [illegible] Section of Electro-Therapeutics [illegible]

[2] The modified Lewis Jones instrument, fully equipped with all the devices found useful by the author, has been placed on the market by Messrs. W. Watson and Sons, [illegible] Great Portland-street, W

they should be employed in a *similar manner* if the results obtained by one observer are to be compared with those of another, is a matter of equal importance Complete uniformity is perhaps too much to hope for, but at least any method adopted should be simple enough to permit of its being accurately copied from a written description only The following procedure is used at the Cambridge Hospital —

1 *The electrodes* —Rectangular pads are used, 2 inches by ¾ inch, which are moistened with tap-water Both electrodes are placed on the muscle under examination, one on the motor point and one elsewhere When possible they are pressed flat on the skin , but in some cases, as with the extensors of the thumb where these are very feeble, it is necessary to pinch the muscles up between the electrodes in order that their faint contraction may not be obscured by spreading of the necessarily powerful impulse used to excite them The limb should be held in such a position as to relax the muscles under examination

2 *Preparation of the patient* —The application of moist heat has already been mentioned as helping to reduce skin resistance It is also often necessary for another reason—namely, that the excitability of a muscle is much reduced by cold The patient himself should be fresh, so that the morning is usually the best time for an investigation If a muscle is obviously overstretched, as by uncorrected foot-drop or wrist-drop, it should be given a few days' rest in a "relaxation splint" before a test is made When such relaxation is not possible owing to adhesions or contractions, the prognosis is often less unfavourable than might appear from the nature of the condenser reactions

It will be noted that the attempt to formulate a standardised electrical procedure presents one point of theoretical weakness—the factor of indeterminate resistance Nevertheless, in practice this does not seem seriously to affect the comparability of results, the reason being that the utmost care is taken always to give any suspected muscle the best possible chance To borrow a legal analogy, we assume that it is innocent until the most careful investigation has proved it guilty

An account of the uses of condensers in nerve and muscle testing would not be complete without a reference to the use of the continuous current For our present purpose a battery yielding a constant current at 100 volts may be conceived of as adding to our series of condensers one of infinite capacity and consequently infinite duration of impulse But an impulse lasting only 1/200 of a second at 100 volts is already somewhat painful , so that we cannot in fact use such a voltage for continuous current testing, but must at least cut it in half A muscle contracts when a galvanic current is "broken," but the factors concerned elude definite measurement The conditions under which the excitation at "make" is produced are, however, capable of being accurately recorded As the test is at present carried out only the milliampèrage is stated, with perhaps the size of the pad But it is also necessary to know the voltage, as the electric pressure required to drive a given milliampèrage through the skin will vary a good deal according to the resistance of the latter If we wish to reproduce the conditions of a given test, we must devise a means of controlling the variable factor—i e , the body resistance This can be done by choosing a standard, say 2000 ohms, and always bringing the total resistance of the patient's circuit to this figure by means of an adjustable rheostat Perhaps in future it may be found possible to apply some analogous arrangement to standardise the resistance in the case of condensers The use of the continuous current in a scientifically accurate manner offers a field for further research

In the absence of a professed neurologist at Aldershot I was called upon very early in the war to give what assistance I could in the diagnosis and treatment of nerve injuries The Lewis Jones apparatus, although then obtainable only in a somewhat crude form, appealed to me as likely to afford more exact information than coil and battery testing, and I requisitioned one for the electrical department At that time there existed practically no data as to the meaning of condenser reactions in nerve injury, some observations in connexion with infantile paralysis having alone been published In seeking to build up a system by which condenser reactions might be made of practical help in military work, it was, of course, necessary to have some sort of working hypothesis The one chosen was to this effect that when a muscle needed very long condenser discharges to excite it the motor nerve was cut, or so injured or involved in fibrous tissue as to be completely blocked, and that when medium discharges were required a minor degree of trauma had occurred It was further assumed that when the condenser reactions improved month by month, recovery was taking place, even in the continued absence of voluntary movement, and that when these reactions did not so improve, the prognosis, apart from operation, was bad These assumptions have proved very useful, and, subject, it is true, to numerous exceptions and qualifications, have in the main been borne out by 17 months experience

I need hardly say that it is not possible to distinguish between anatomical and physiological block. A much more important practical limitation is this It is not possible to say whether a block actually exists at the time of the test All that can be definitely stated is, that when a muscle responds only to No 11 and upwards—i e , to impulses lasting 1/400 second or longer, there has been *at some time* a complete blockage of all motor impulses for some considerable period, probably weeks

It would appear that when a motor nerve is "blocked" for any length of time, the muscles exclusively supplied by it undergo certain changes which prevent their response to the very short electrical stimuli which normally excite them If the change in the electric excitability always disappeared coincidently with the re establishment of a path for motor impulses, it would be highly convenient for the diagnostician But nature has not arranged it so It is quite possible for the condenser reactions to remain stationary during the healing of a nerve, or even to improve somewhat and then actually retrogress with the return of voluntary power This phenomenon is most often seen after the freeing or suturing of a nerve I have only once seen it occur in a case that was healing spontaneously There is but one electrical phenomenon which I think may prove to be pathognomonic of complete blockage existing at the time of the test When the condenser number required is 12 or more, and when the contraction of the muscle falls to zero after four or five progressively feebler efforts, operation has so far shown actual severance or complete strangulation of the nerve trunk The non occurrence of this phenomenon is, however, no evidence against severe injury

The fact that high condenser numbers may be required to excite a muscle the motor nerve of which is far advanced towards recovery might at first sight appear seriously to invalidate the diagnostic value of such reactions In practice this is not the case, provided that the condenser response is regarded as an important, but not exclusive, means of determining the broad issue as to whether or not operative interference is desirable The test is unreliable at any less period than six weeks after the injury Faradic response usually vanishes in a week or ten days, but a muscle severed from its motor nerve will respond to 7 or 8, condenser scale, just after it has lost its response *to coil currents Reactions between* 7 and 9 occurring in a case two or three months *old* would be regarded as evidence in favour of possible spontaneous recovery, but if found at the end of a fortnight or so are just as likely as not a stage in the downward path towards 12 and beyond A case of gunshot injury near the elbow which I saw at the Cambridge Hospital is interesting as illustrating this point

The patient was sent to the electrical department with a letter saying that his wound had *occurred three months* before. There were no sensory changes The extensors of the forearm responded to No 9 condenser scale A report was given to the effect that the musculo-spiral was certainly not divided but might be involved in fibrous tissue Operation showed a completely severed nerve It was then discovered that the wound had been received only three *weeks* not three *months* previously A test made one month afterwards showed no response below 12.

Most patients, however, for various reasons are not sent to the electrical department until their injury is *two or three months old* Cases showing reaction of 12 or upwards are carefully examined for any trace of voluntary movement An attempt is also made to stimulate the nerve itself above the lesion when this is anatomically feasible If there is no movement no nerve *conduction, and also* complete interruption of sensory impulses operation is obviously to be recommended, provided the surgical conditions permit of it Often, however, the sensory path is still, to some extent, intact, and there is perhaps even faint conduction in the nerve At first we used to give such cases a chance of recovering, carefully observing and treating them for some months Nearly all have had eventually to be operated on and have shown definite involvement of the nerve in scar tissue Our practice is now to operate unless delay is advisable for other reasons, such as the state of the wound

When the reactions are between 8 and 10, inclusive, a varying period of waiting is prescribed but cases which show no detectable improvement of any sort in two months should as a rule be operated on

In a period of 12 months 25 cases were recommended for operation In 22 of these definite injury of the nerve was found, chiefly in the form of involvement in fibrous tissue In two the nerve looked healthy but the bullet had passed close to it We know that in the case of muscles they may appear sound and yet be seriously damaged within, so that it is reasonable to assume that hæmorrhages may occur within a nerve without altering the appearance of the sheath In the remaining case in which nothing was found the bullet had passed some distance from the nerve trunk

The last patient referred to had been wounded in the thigh In another somewhat similar case the patient refused operation and after some months began to show signs of recovery, though whether this will be sufficient without surgical interference is still doubtful No similar cases have occurred in the upper extremity This makes me wonder if the standard of 100 volts is sufficiently high for use in the lower limb only further experiment and [illegible] can determine this point

In estimating the chances of recovery without operation in any given case I *endeavour to the best* of my ability to take all factors into consideration, but the fact remains that my opinion is based very largely on the condenser reactions, interpreted in the light of what has been *found at* operation, and by the course of cases where for some reason operation, though recommended, has not been performed

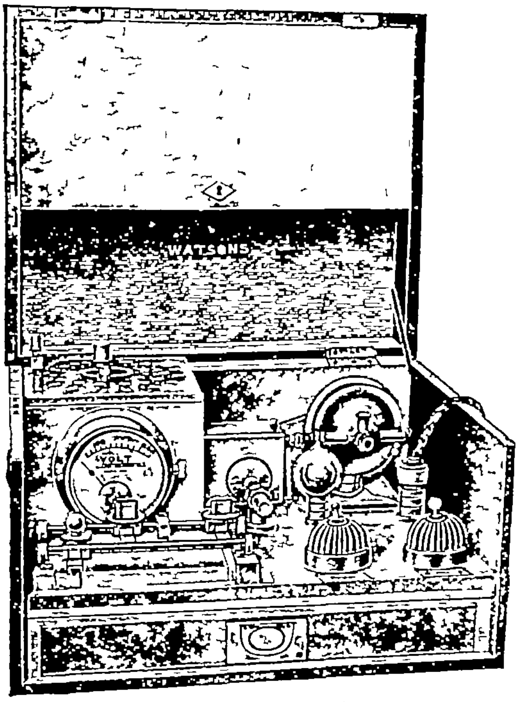
It is worth noting that musculo spiral injuries have been very common in this war, that in many of them electro diagnosis is the only method of investigation open, and that as a class they respond remarkably well to *operative treatment*—signs of voluntary power sometimes returning within five months after secondary suture, and in a few weeks after freeing from fibrous adhesions

The electro therapeutist should attend operations on nerves whenever possible, not only for the purpose of seeing for himself what is found, but in order to gain further information by direct stimulation of the exposed trunks This procedure might well in itself form the subject of a paper I mention it only to call attention to its importance and to point out that standardisation of the currents used is not of less importance here than elsewhere

I will now deal very briefly with the treatment of nerve injuries in so far as the condenser apparatus is applicable In its original *form only a succession* of single twitches could be produced in a muscle, such as are obtained by making and breaking a continuous current The modified apparatus which I have referred to can, if *necessary*, produce tetanising current, and this current causes extraordinarily little skin feeling relatively to the *amount of muscular* excitation, even when quite small pads are used As the individual impulses may be of any length up to 1/30th second, the tetanisation of practically any *muscle is possible* even though it be completely cut off from its motor nerves Such a power *must* be used with discretion, but when electrical stimulation is desirable at all rhythmical tetanisation is infinitely superior to treatment *by* what are popularly known as galvanic twitches

The *careful picking out* of individual muscles and nerves is the *key to* success in a large number of cases and is *often* neglected because it requires time and skill Such work can rarely be left in the hands of a lay assistant It is so easy on the one hand to produce over fatigue or, on the other, to fail in provoking all the required movements I have watched work of this kind being *done* I have seen the commission of almost every kind *of* therapeutic sin—including stimulation applied ostensibly for the benefit of weakened *extensors* which succeeded only in producing vigorous contraction of their normal opponents by spreading of the strong currents employed If the stream of impulses from the condenser is more powerful for good than the older methods it is also, wrongly used, capable of doing proportionately greater injury

Returning once again *to the* question of diagnosis and prognosis, I should like *to make* it quite clear that I make use of sensory investigations so far as my knowledge of them goes There has, I think, been a tendency of late to give electrical reactions a very secondary place *Some* of the reasons for this distrust I have tried to point out, and at the same time to show that most failures are due to defective instruments and faulty methods That an expert neurologist may get along quite well with only a very moderate *amount* of electrical knowledge may be conceded But the converse is also true as I have proved at any rate to my own satisfaction and that of the surgical staff of the Cambridge Hospital The perfect physician would, no doubt, combine with an expert knowledge of the nervous system a complete familiarity with electrical principles and technique But such prodigies are rare, and one is certainly justified in asking that nobody should speak lightly of modern electro diagnosis unless he has thoroughly familiarised himself at first hand with the technique employed and the results obtained by someone who has had extensive experience of the method and who believes in its value



Herniaman Johnson modification of the Lewis Jones condenser set with voltmeter and rheostat to charge condensers at any voltage between 25 and 200 Also speed regulator to give any number of revolutions between 1 and 30 per second and speed recorder The patient's circuit is earth free

1 Electrical reactions are, and must remain important in diagnosis, they cannot conceivably be dispensed with

2 The older methods need drastic revision, both as to instruments, technique, and terminology

3 The Lewis Jones condenser instrument, as modified to give either slow or rapid impulses, is an accurate and scientifically standardised substitute for the faradic coil, and also, in the great majority of cases, for the galvanic current

4 Regarding nomenclature, the terms "faradic response" and "reaction of degeneration" should be dropped and their places taken by a statement as to the smallest condenser which will produce any appreciable contraction under given conditions

5 As to the standard to be adopted, the condenser values originally chosen by Lewis Jones appear to do very well, and should be adhered to His voltage of 100 works excellently in the upper extremity it may need to be a little increased as regards the leg, and decreased for the face The rule that a muscle should always be "coaxed" to do its best—i e to respond to the shortest possible impulse—must be carefully observed The general use of the Lewis Jones values would enable muscle reactions to be designated by numbers and thus simplify reports

6 The condenser system offers no royal road to diagnosis and prognosis

Cavendish Square W

SOME NEW FORMS OF OCCUPATIONAL DERMATOSES[1]

BY R PROSSER WHITE, M D EDIN, M R C S
CONSULTING PHYSICIAN AND DERMATOLOGIST ROYAL ALBERT EDWARD INFIRMARY WIGAN

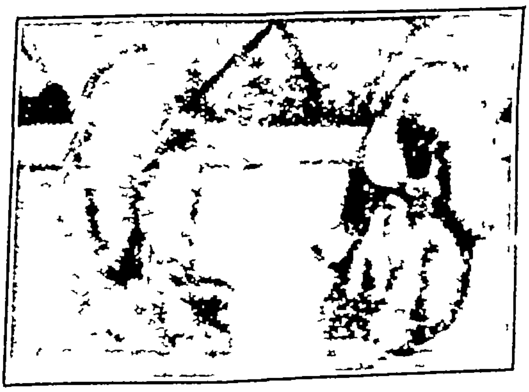
THE following examples are reported for the first time in medical literature The war has made a huge demand on the production of trinitrotoluene nitrate of ammonium, and nitro glycerine They form important ingredients of many high explosives used for military purposes, such as blasting filling bombs, shells, and hand grenades, &c To those who have the supervision of the numerous munition works throughout the country employing these compounds, a knowledge of their possible evil influences upon the skin and how to prevent them is necessary

Trinitrotoluene Dermatitis

The following are some selected records of the above condition

CASE 1 —Male, aged 45, worked in a mixing house in an explosive factory He complained of itching and burning of both forearms and slightly on the backs of both hands The irritation began in the wrists and was most severe at these points The discharge had dried here and there into thin crusts The trouble started a week after he commenced working in the mixing room Objective symptoms The whole of the lower parts of the forearms and wrists were covered with a mottled erythematous rash which faded away at its upper edge The back of the hand was reddened and harsh to the touch Under a lens numerous minute red points appeared surrounded by a zone of faint erythema On the wrist, especially the under surfaces, were numerous vesicles, mostly ruptured exuding a small quantity of semi opaque fluid The palms of the hands showed the usual staining seen in these workmen, it varied from canary yellow to mahogany In some places, especially between the fingers and along the outer edges of the palms, were seen some lighter rounded points under the epidermis about the size of boiled sago grains where the skin was evidently beginning to separate and which looked as if they contained air or fluid The man was put to other work and soon recovered

FIG 1



Trinitrotoluene dermatitis late stage showing the massive exfoliation of the palms

CASE 2.—Male aged 32 May 26th 1915 Carpenter employed in fastening up wooden boxes in the mixing houses Had been ill a week Complained of intense irritation, which began between the fingers but had now spread all over the backs of the hands and up the forearms He also said that when he clenched his fists the palms felt very tender sore and stiff There was some irritation on the inside of the thighs June 11th On the backs of the fingers the skin was peeling in thin fine scales but [illegible] some of the nails large blisters were forming, which did not contain much fluid, and the epidermis was breaking away over the rest of the back of the hands in large flakes The skin of the palms starting at the outer edge, was being detached almost as one thick dry cast (Fig 1) June 25th I examined the patient's thighs, scrotum, and penis The whole of these surfaces was deeply inflamed, some parts were weeping others crusted Here and there were small superficial septic sores He complained of the intolerable, maddening itching which made walking almost impossible and destroyed all comfort night and day He also showed me his feet which had been causing him inconvenience for the last two weeks, but he said they were improving On inspection the soles of his feet exhibited the same staining as is ordinarily seen on the hands of these employees The tops of both feet were peeling in dry thin sheets and the thick skin of the soles was being apparently undermined at the edges and threatening to exfoliate *en masse* The man was off work many weeks

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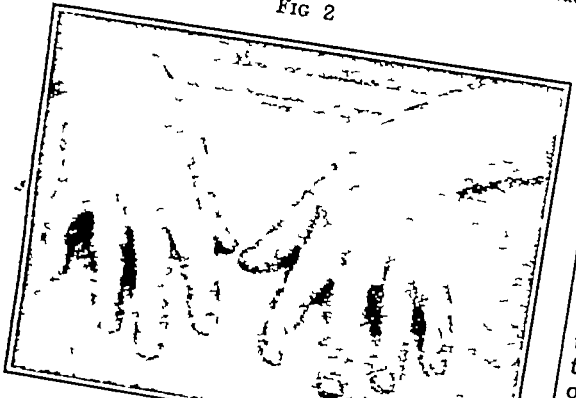
[1] A paper read [illegible]

FIG 2



Trinitrotoluene dermatitis early stage shows well the early implication of the forks of the fingers

CASE 3 —In this case the skin of the fingers especially between the forks and the backs of the index fingers and thumbs was most affected by itching This is usually the first and earliest symptom and seat of the trouble in T N T dermatitis The men begin to rub these parts and a fine desquamation follows (Fig 2) This was a comparatively mild case and when at work in the daytime the man said he suffered but slight inconvenience At night the parts affected became very irritable swollen, and puffy, this condition would subside during the day, to be renewed the following night There was little if any oozing and the patient likened the early appearance to a nettle rash He said wheals formed and the parts swelled, but these subsided in the course of a few hours

CASE 4 —Female aged 20 This girl filled cans with T N T in the mixing house by means of a scoop She thought the rash began like nettle rash and said each individual spot swelled up as large as a threepenny piece in a few minutes taking about 12 hours to subside They left small red itching papules If work was still continued amongst the powder these wheals turn into vesicles containing fluid In her case the back of the hands the flexor aspects of the forearms and flexures of both elbows were the chief parts affected but the inner surfaces of the dorsal aspect of her feet between the toes and the back of the heel were intensely irritable at night and kept her awake The skin between some of the toes was broken The papules seen on the feet in this case were the size of pinheads and almost the colour of the skin Between the papules was some general erythema probably due to scratching An irregular distribution of sago grain elevations was noticed on the backs and palms of the hands varying in size from a pinhead to a pea

CASE 5 —Male The wrists and backs of the hands were the parts affected though the patient complained a little of the chin and face He stated that if he touched the skin [illegible] of the nose with the powder the place began to tingle He described the early symptoms as tingling pricking and harmless and was of the opinion that it was only after the [illegible] of vesicles with a little discharge that the intolerable itching was felt

CASE 6 —Male aged 42 Second attack. Suffered fro irritation with crusting on the front and sides of the neck backs of the hands, and the tops of his feet. It is interesting to notice that this man wore clogs and the eczematous patches on his feet (about 2 in × 1½ in in extent) are in front, where the clogs are fastened

The eruption —Between 40 and 50 cases have been under observation, but doubtless many slight cases are not brought to the doctor The earliest rash is a superficial erythema, but as usually seen consists of patchy, irregular shaped, slightly raised areas of redness varying in size from a pin head to a shilling, between which is the normal coloured skin. These spots coalesce by spreading at the edges and by the formation of new centres The parts most affected are the hands and arms, the neck, the lower part of the abdomen, the inside of the thighs and scrotum, the back above the buttocks the calves, and between the toes On exposed and constantly irritated surfaces such as the arms, a continuous sheet of redness ultimately develops The skin becomes greatly thickened and takes on what Sabouraud calls "secondary lichenification" Moisture appears to dispose towards the production of vesicles, which quickly rupture by chafing, especially on the thin epidermis of the scrotum and thighs In this region the inoculation of pyogenic organisms readily produces superficial ulcers The character of the desquamation follows the ordinary rules and depends upon the severity of the inflammation and the thickness of the epidermis Crusting is slight

Hot weather causing much sweating increases the prevalence and severity of the trouble The exposed skin nearest the work is in every case the earliest seat of the lesions The rolled up sleeve will often limit the extent of the lesions on the hands and arms A rash round the neck and on the triangular space on the skin over the throat and chest will sharply define where the collar of the overall has failed to cover and has been left open at the front The scrotum penis, and inner aspects of the thighs are commonly affected in prolonged cases, sometimes showing a continuous sheet of redness The powder is introduced to these parts by the fingers when inserted there for necessary purposes, and the condition is aggravated by chafing, heat, and moisture The powder will fall between the tops of clogs or through the fronts of boots improperly laced, causing a dermatitis on the tops of the feet In these circumstances if the socks are infrequently changed much persistent irritation and trouble is found between the toes In no case have the heads of the workers been affected

The larger number of cases has come from amongst the workers who sieve the fine powder This is done by hand, on a large sieve with a special mesh to retain the larger grains During this process a cloud of the finest dust is distributed into the atmosphere and settles on all the objects in the shed It falls especially on the bare fore arms and hands of the sievers

The other workers affected have been employed in the same sheds—e g, those filling the fine powder into tins with scoops These girls have suffered comparatively lightly One man, with a very severe eruption was engaged in one of the mixing sheds, packing the full tins in boxes Though his contact with the powder was not so direct, the amount of fine dust in the air, added to that which had settled on the wooden cases he was fastening up was enough to set up very serious trouble He was evidently a highly sensitive subject, and was probably uncleanly and careless Occasionally those who "weigh out" and "trolley" crude trinitrotoluene are affected.

Personal experiments—The finished explosive is made up of finely powdered aluminium, trinitrotoluene, and nitrate of ammonia The important question was to decide which of the component parts of the mixed explosive was the active irritating agent, and whether this action was shared by more than one I tested the ingredients in the following manner —

> On June 22nd, 1915, a sweltering hot day, I applied about two teaspoonfuls of finely powdered aluminium on lint to my left forearm I covered this with a large piece of jaconet and firmly bandaged the whole in position. The right forearm I treated similarly with an equal quantity of trinitrotoluene, the left leg with nitrate of ammonia, and on the right leg a mixture of nitrate of ammonia and trinitrotoluene
>
> In about six hours I noticed a warm sensation with slight pricking in the left forearm, but not enough to cause me any inconvenience On the right forearm the burning feeling and pricking sensations were very pronounced In 12 hours, although no powder had been applied to this particular part, the bend of the right elbow felt constantly uncomfortable, especially on movement The right forearm felt tender and sore, as if raw when the bandage was touched The soreness on the right forearm, though not unbearable, was constant, and one felt one would have been glad to remove the application At no time was there any *itching* in either of the forearms On the legs I was not conscious of the presence of the bandages Twenty four hours later both calves were slightly painful to pressure through the bandages
>
> Up to the end of the experiment, which lasted 24 hours, the right arm was increasingly causing inconvenience, burning and pricking being the special features, but no itching, the prickle celled layer apparently not being involved When the bandages were removed the left arm and right leg were practically normal On the left leg, where the nitrate of ammonia had been applied, particularly where the larger grains had lain, the pressure of the bandage had indented the skin and there was a little redness, but it was slight and unimportant and not tender to the touch On the right forearm, wherever the T N T had been applied, the skin was acutely inflamed and suffused with a brilliant red efflorescence The parts were most sensitive and tender to the touch A week later the skin peeled off in thin flakes At the end of a month loose flakes of skin were still coming away in tags, and the tawny yellow colour of the skin was very noticeable wherever the skin had not desquamated The finger nails of the right hand were a pale canary yellow

This personal experiment is quite convincing A further proof that the trinitrobenzene is the irritating agent is borne out by observing that up to the time of writing no case of dermatitis has originated in any of the mixing houses where trinitrotoluene has been absent from the ingredients sieved It is sieved at a temperature about 55° C (131° F), but at ordinary temperatures T N T in fine dust is irritating

The injurious ingredient—The raw T N T powder, as I have seen it commercially, is in two forms, crumbs or granules, and fine plate crystals Both consist of broken up fine crystalline spicules A pure variety separated out by alcohol is used solely for priming purposes This inflammation of the skin is caused by the presence of either variety on the skin in very fine powder It seems improbable that the other substances incorporated with it play any part in the production of the dermatitis described above

I believe it to be an axiom of chemistry that "mechanical subdivision assists chemical action, probably by increasing the intimacy and area of contact Trinitrotoluene thus falls into line with the other dermatoconioses, and is on all fours with the dermatitis caused by the powders of certain explosives—e g, methyl aniline, described by Dr Legge, fulminate of mercury, and the fine floury dust distributed in the packing and crystallising of dinitrobenzene"

Incidentally it is interesting to note that any parts of the white cotton underclothing of the workers exposed to the powder are coloured pink and the fair hair of the employees becomes a picturesque bronze The nitro salts of benzene toluene, and xylene are neutral salts with an acid reaction, and when they combine with an alkaline base such as lime, soda, or potash they give this pink colouration Washing soda left in the clothing brings it out Trinitrotoluene is an acid stain and the creases on the palms are marked as bright yellow lines The other parts of the hands vary in tint from yellow to brown due to the use of soap The feet are often similarly affected

Prevention—These skin affections, besides causing suffering and inconvenience to the workman interfere very materially with the details of management Causes contributing to their outbreak are The heat during the summer months and consequent excessive sweating amongst the employees, prolonged working hours owing to the heavy demand and possibly the lack of skilled workmen due to the scarcity of labour New hands are not as careful and discriminating as more expert workmen, and the admission of susceptible men, or even those suffering from other mild forms of skin disease, cannot be altogether prevented when the need for hands is urgent

To prevent this dermatitis the essential thing is to avoid, wherever possible, the scattering of powder containing minute particles of trinitrotoluene This dust in clouds is easily seen and is obvious during the processes of sieving and filling the canisters in the mixing houses The former is I believe, the chief cause, but slight dermatitis amongst canister fillers is quite common The cartridge fillers have never shown this trouble The ingredients should be sieved prior to the admixture of trinitrotoluene

Precautions—In all the cases, without exception the arms have been affected This is because contrary to rules, the men roll up the sleeves of their overalls, and the powder, instead of falling on the sleeve, which is intended for the protection of the workers, falls on the skin There should be no opening in the cuff of the sleeve through which the powder can penetrate to the wrist If any dry fine powdered trinitrotoluene floats in the air gloves will be required to protect the hands I have always been very chary in advising the wearing of gloves in dusty occupations, as I find from experience that men are very careless in their use of them If the powder gets into the gloves or the gloves have powder on them when put on, the combination of warmth, perspiration and irritating powder increases the trouble If gloves are worn the hands must first be thoroughly washed and carefully dried The gloves should be of wash leather or closely woven cotton and free from the powder inside When worn the cuff of the glove should be inside —that is, under the sleeve of the overall—and both fastened securely at the wrist so that no dust can fall through the cuffs of the gloves

In a fair percentage of cases the tops of the feet and the toes have suffered from inflammation I notice that this is particularly common in men and women

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Vide Occupational Affections of the Skin, p 7 From a [illegible] experiment [illegible] [illegible] irritating to the skin who wear clogs There is no doubt that clogs do not give sufficient protection to the ankles and the powder percolates between the fastenings, thus causing trouble I have advised the men, whenever possible, to wear boots, the tops of which are satisfactorily covered and protected by the trouser legs Stockings should be often shaken and changed Open work stockings, so much in vogue, even amongst women munition workers, are the despair of the prophylactician Substantial well fitting gaiters are a valuable safeguard to the feet The overalls in the mixing houses require careful supervision They should be clean and dry, all the openings should fasten securely and overlap, and the collars should be high There has been no trouble so far in the head, I attribute this to the use of caps which should completely cover the hair

Nitrate of Ammonia Dermatitis

Nitrate of ammonia does, under special conditions of temperature, subdivision, and predisposition, cause an occupational dermatitis Amongst a number of men who work in a perpetual cloud of this dust at a temperature of about 110° F I have observed two cases Both were slight—that is, the men were never invalided from work, although the itching was described as sometimes intolerable, especially at night The rash is in the earliest stage a faint erythema The first case had persisted a whole month when I inspected the patient This man held open the mouths of sacks which received the ammonia from the drying chamber, with arms bare These and the tops of the feet were the only parts affected

The second case was seen in a man who emptied boxes containing the coarse salt into a steam jacketed mill with a revolving beater This machine both dries and breaks up the lumps of ammonia When the workman opens the lid of the mill to pour in the powder some of the contained dry hot fine floury dust escapes and settles on his arms and the flexor surfaces of his elbows All remark that any sore or crack into which nitrate of ammonia gains access causes smarting

A third case of dermatitis situated on the back of both hands but more particularly the right, was due to breaking up with a hammer the consolidated blocks of this substance after its removal from the wooden casks in which it arrives at the explosive factory Attention to the overalls is very necessary to avoid this trouble

Stomonal Dermatitis

One example of stomonal dermatitis has come under my observation in a dataler His particular work is to distribute the cartridges containing this explosive to the men in the mine He states that not infrequently a cartridge becomes broken and its contents are scattered into the tin and over the stock of cartridges which he hands out to the men The powder causes severe smarting wherever it touches the skin, and, he says burns holes in the glove which he wears to protect the right hand The man has bought three pairs of gloves during the last month and all of them show great holes in the thumb and the ends of the first and second fingers He attributes the breaking of the cartridges during the last six weeks to the cases being made latterly of a less strong material Prior to this none of the contents were ever spilled, and he never suffered from any dermatitis although he has been doing the same work with the same explosive six months

Upon exposure to the air stomonal powder soon becomes very wet The rash from which the man mentioned above is suffering is situated upon his right hand, forearm, and round his neck These parts are very itchy, and when cracks form, as they do in the later stages of the trouble, they become very deep If any powder gets into them he describes the pain as feeling like a hot skewer being pushed into the sore The eruption, in the early stage, is erythematous, but later presents the appearance of eczema rimosum, with deep fissures, especially on the fingers, thumb, and outer edges of the right hand

The following is an approximate composition of the powder —

Nitroglycerine	11 parts
Nitrate of ammonia	57½ ,,
Nitrate of soda	7 ,
Chloride of soda	20½ ,
Wheat flour	8½ ,
Moisture	1 part

Probably the nitroglycerine and large proportion of common salt are responsible for this condition, and the means for its avoidance are palpably evident

Treatment

It is often a difficult task to give relief in cases of dermatoconioses, and as the method I find most useful is not suggested in text books on dermatology it may be worth mentioning

My first application is a paint This paint has been for many years my routine topical remedy in impetigo, the intertriginous group of skin diseases, and in all secondary impetiginisations, which so frequently prolong and delay the healing of eczema In localised erythematous and papulo vesicular eczemas, and in the later lichenoid form, it gives after a few moments' smarting, a great feeling of relief In patchy eczematised seborrhœa, so resistant to many lotions and ointments, it subdues the itching and assists the usefulness of further treatment

I have proved its worth in many other skin troubles I never prescribe it for the patient's own use, but myself dab it freely on the inflamed and itching parts It must not be used to irritable mucous surfaces In the early pruriginous stage of these special forms of dust dermatitis *it is of the* greatest value, and its repetition is requested by the invalid

℞	Camphor	ʒii
	Acidi carbolici	ʒiss
	Hydrarg perchlor	gr xv
	Picric acid	ʒss
	Sp vini rect	℥vi ʒvi

M Fiat pingt
Sig Apply by a swab or brush

For home treatment I prescribe 2 ounces of the paint mixed with 4 ounces of lotio calamin co and the addition of ½ drachm of pulv acaciæ

Ointments are inadvisable during the day time, when the men are exposed to the dust of their trades, but worn at night or under bandages the following is very soothing —

℞	Zinc oxidi	1 part
	Acidi oleic	9 parts
	Stand for 2 hours	
	Emplast plumbi	10 ,
	Parenol solid	25 ,
	Parenol liquid	13 ,
	Hydrarg ammon	2 ,

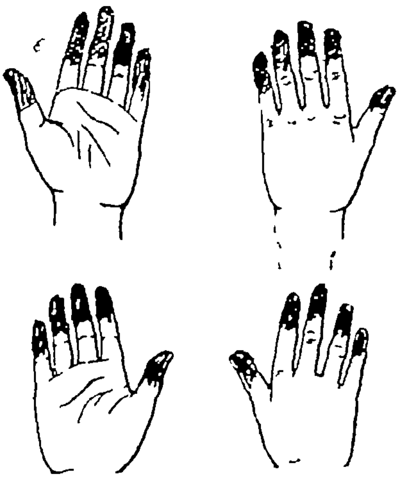
Fiat ung

Later the treatment follows the usual dermatological lines

Conditioning Dermatitis

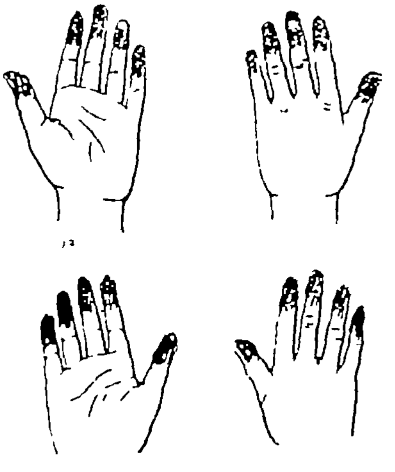
CASE 7 —Male, aged 13, working in the "conditioning" cellar of a cotton mill The boy arranges the tubes of cotton thread as they come from the spinning frames in layers, and puts between each layer a damp thick cloth, which he previously wrings out of a watery solution containing some chemical He has constantly to break off the loose ends of cotton on the tubes by winding the ends round his fingers He does this to prevent a further unwinding of the cotton off the tubes The cotton threads cut into his fingers, which are continually smarting, especially where the thread has cut his skin The backs of the fingers are always sore and crack, the skin at the base of the nails also is jagged and torn The smarting is particularly noticeable at night when the patient is at home To soothe the irritation he applies vaseline He worked at the mill six months and then had to give up, owing to the discomfort He says many of the other lads suffered in a similar manner

FIG 3



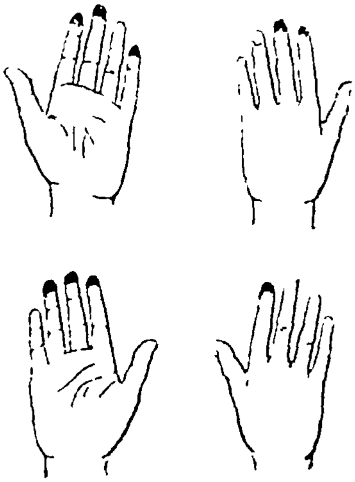
Anæsthetic areas on June 5th

FIG 4



Anæsthetic areas on June 9th

FIG 5



Anæsthetic areas on July 4th

Wet winders acroasphyxia due to potash alum Areas of total anæsthesia to prick of a pin and hot test tube are shaded (Case 9)

CASE 8 —A second lad was seen by me who had worked in the same cellar at the same employment His symptoms were not so well marked, as he had left off this work some time before I saw him

In both these instances the agent added to the conditioning water is a fluid called "Anti mildew Conditionite," a preparation containing formaldehyde

Wet Winders' Acroasphyxia

The two following interesting cases were brought to my clinic by my colleague, Dr F Rees

CASE 9 —Female, aged 17 Had been working in "wet bobbin winding" of "warp" for four years previously in the same mill without suffering any inconvenience Had never suffered from chilblains, though her hands were generally cold The heart and urine were quite normal Had never suffered from cramp or pain in the fingers She left her work two weeks ago as she felt she was unable to do it as well as usual The girl said that recently something had been put into the "conditioning" water to prevent the thread from going brown

On examination the hands felt cold and clammy though the day was a very hot one in June The palmar aspects of the fingers were distinctly dark blue and appeared slightly swollen The thumb and the index finger more especially showed this leaden blue colour over their whole extent and the terminal phalanges of the other fingers were decidedly blue, but the darkness gradually faded away towards the palms The palms were dusky red and pressure over any part blanched the skin and left a dead, yellow white sharply defined impression The dusky red appearance took quite an abnormal length of time to return when pressure was removed The backs of the hands and the skin of the lower parts of the forearms had also the same dusky red colour On the tips of the first, second, and third fingers of the right hand, and the tip of the second finger of the left hand, were seen superficial scars and the remains of slowly healing sores The palmar surfaces, and to a less extent the skin of the backs of the two distal phalanges of both hands, as shown in the shaded parts of the diagrams were totally insensitive to the prick of a pin, and also to the application of a test tube containing hot water Outside these areas the pin prick was painful and the tube of hot water could not be borne (Figs 3 and 4)

After a month's absence from work the cyanosis was less marked, and only the very tips of some of the fingers were still insensitive to the hot test tube and plunging a pin into these parts caused no pain (Fig 5) The lividity was pronounced in the ends of both index fingers six weeks after leaving off work, though sensation to heat and pain was quite recovered from and as acute as on my own fingers

CASE 10 —Female, aged 22 Had worked in the same winding room many years, but had been employed in "wet winding" for some weeks only The arms were naturally brawny and red, and the girl had for a long time been subject to cold hands and a poor circulation She said that her fingers from the tips to the forks got quite blanched and felt numb, tingling and stiff after her work Both hands and all the fingers felt very cold to the touch and there was the same slow return of the circulation after pressure The hands and fingers looked quite cyanosed and the finger nails had a dark look Sensation was defective and in some parts quite lost to the prick of a pin and to the application of heat on the skin of the two terminal phalanges of both hands It was less extensive on the dorsal than on the palmar aspects After a long absence from work all these symptoms improved, the cyanosis lessened sensation was restored, and the disagreeable invaliding subjective feelings faded away The improvement was very gradual

Both of these cases showed the same characteristics—acroasphyxia, venous stasis, marked terminal anæsthesia, with occasional local superficial necrosis I believe that both patients suffered habitually from a general feeble peripheral circulation, but superadded to this was the trouble due to the specific nature of their work Continuous exposure to cold water will, in specially predisposed persons, induce a similar syndrome but hardly in so acute a form Besides, both these girls had worked at "wet winding" in one case several years and in the other some time without feeling any ill effects The presumption is therefore, that the acute aggravation of the symptoms was due to the addition of a chemical to the conditioning water in which the bobbins are steeped prior to their being brought to the winders to be wound into hanks The chemical in these instances was potash alum, which had only recently been used Continuous maceration in a solution of this salt tends to make the skin hard, insensitive, and leather like

Conditioning

Conditioning means the artificial addition of water to cotton thread and is an accepted practice in all mills Raw cotton contains 7 5 per cent of natural moisture, and anything above 1 per cent of this is called excess During the process of spinning cotton loses about 3 5 of moisture This loss is restored to the twist and weft in the conditioning cellar The full bobbins of wound cotton are submerged in tanks of water about three minutes, cops, tubes, and cheeses are treated by being laid in layers in boxes and thick damp cloths are placed over them Knots and weft bobbins are sometimes wet sprayed

Conditioning is used to add weight to the thread, but its most valuable property is that it increases its tensile strength A hank is made up of 7 leas A lea consists of 120 yards of cotton thread, if conditioned it will stand a strain of 4 lb greater pull than undamped cotton yarn Conditioning makes the thread thicker and less liable to fray If excess of moisture is added (sometimes as much as 12 per cent) the keeping properties of cotton are interfered with and mildew results To prevent this some antiseptic is employed Zinc chloride, sodium fluorsilicate, or other antiseptics are universally used in sizing warps for the beams in Lancashire, but this is not the process to which I refer

In the "conditioning cellar' water is usually used alone but in exceptional circumstances the following substances Potash alum, about a double handful in 400 gallons of water Zinc or magnesium sulphate 1 lb to 100 gallons of water, which makes a solution of 1 in 1000 These last two are cleanly and effective antiseptics when sprinkled upon cops (weft), but may be injurious if the cotton has to be dyed Sodium fluorsilicate, under the proprietary names of "Microbicide ' and ' Salufer ' (1 lb to 150 gallons of water is the usual strength) For maldehyde, under the name of "Defiance Antiseptic, is a 9 per cent solution, and 'Antimildew Conditionite ' is the trade name for a 13 per cent solution of formaldehyde scented with a trace of nitrobenzene, possibly to disguise the odour of the formaldehyde One gill of this last patent antiseptic is mixed in 30 gallons of water, forming a dilution of about 1 in 5000, forming a ¼ per cent solution

I am informed that the continuous maceration of the hands caused by the work of handling watered bobbins *in the conditioning cellar* sets up commonly a mild chronic irritation of the first fingers and thumbs of the hands The two girls cited above *wound* bobbins moistened by conditioning water, to which had been added potash alum, a double handful to 400 gallons of water This chemical is used to deposit sediments in the water, and especially iron which will readily cause iron mould on damp threads The bobbins these girls were working with were very wet

Regarding the other chemicals sometimes used as antiseptics to prevent the growth of moulds, experimenting on my own forearm with a 1 in 4 solution of fluorsilicate in water, the application of a saturated cloth under jaconet in 24 hours brought out a discrete superficial pustular rash very much like the pustules caused by rubbing in croton oil The amount of water I used did not quite dissolve the sodium fluorsilicate There were some suspended particles, and I think the pustules were caused by their presence on the skin The pustules varied in size from a pin s head to a small pea and were very irregularly distributed A dilution of one part of "Defiance" antiseptic added to 5 parts of water and applied under jaconet for 48 hours to the skin of my forearm caused here and there a diffuse erythema, which ended in a few days in desquamation

In the conditioning cellar these chemical agents are used only in very weak solutions, but, on the other hand, it must be remembered that in the practical application of them contact with the fingers of the workers is very continuous I think we can so far generalise as to say, that it is only in specially predisposed persons that any trouble is likely to arise, and certainly such markedly severe cases of acroasphyxia as I have described, otherwise cases would be more frequently reported

Wigan

SOME EXPERIMENTS WITH THE SIMPSON ARC LAMP

BY J H. SEQUEIRA, M.D LOND, F R C P LOND, F R C S ENG,
PHYSICIAN TO THE SKIN AND PHOTOTHERAPY DEPARTMENTS AT THE LONDON HOSPITAL

THE lamp devised by Mr Simpson is a hand fed arc lamp, the poles of which are said to consist of wolframite It is worked by a current of 60 to 70 volts and 5 to 7 ampères Wolframite is a tungsten compound, and the spectra of the Simpson arc and that of tungsten have been shown by Dr Sidney Russ[1] to be practically identical The lamp has an open arc and its rays are reflected by a flat mirror or by a concave mirror on to the surface under treatment When the flat mirror is used the rays are described as "open", those which are rendered convergent by the concave mirror are called "focal '

The proper understanding of the use of concentrated actinic light in the treatment of disease is due to the late Professor Finsen By a series of simple experiments he demonstrated that the penetration of living tissues could only be obtained by rendering them anæmic, and an essential part of the treatment to which his name is attached consists in compressing the parts subjected to light It is the ignoring of this fact which demands close examination of the contentions urged by the exponents of the Simpson lamp

I am convinced by a number of observations already made with the apparatus now on trial at the London Hospital that the light produced in the Simpson lamp is very rich in actinic rays Quite early in the development of phototherapy attempts were made to devise lamps which gave more actinic radiations than the carbon arc A successful apparatus was that invented by Mr Leslie Miller, in which an arc was produced between iron electrodes The light was highly actinic, and it was used with plates of ice to compress and render anæmic the area under treatment Carbon poles with iron cores were also used in my department and these gave highly actinic rays There were, however, technical difficulties which

led to the abandonment of the apparatus The most valuable advance hitherto has been the mercury vapour lamp of Kromayer The actinic value of the radiations produced by incandescent mercury vapour are too well known to be insisted on here In the Kromayer apparatus the necessity of rendering the parts anæmic is recognised and its therapeutic value in a number of cutaneous affections is undoubted It has been used in my clinic for years with great success, but it has not ousted the Finsen lamp in the treatment of most forms of lupus

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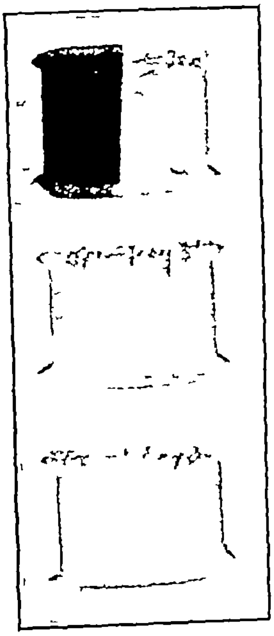
[1] Brit Med Jour Jan 22nd 1916 p. 125.

That radiations of high actinic value have a destructive influence on bacteria and superficial bacterial affections is well known This fact was used on a large scale recently in the sterilisation of water for the large camp at Niagara Falls, and it is so widely known that it need not be insisted on here It would therefore be remarkable if a light rich in actinic rays failed to affect beneficially certain superficial bacterial affections It is claimed, however, that the Simpson lamp produces a radiation of great penetrative power, and it has been described, I presume with the authority of its exponents, in the *Times* of Jan 10th, 1916, as "a new X ray" I venture to say emphatically that the penetrative power of the light produced in the Simpson lamp is negligible, and that the radiations have nothing in common with the X rays I make this statement as a result of the following experiments —

FIG 1



Dental films exposed to Simpson light Three films were wrapped in paper half of each being covered by sheet lead 1 mm thick 1 The upper film was exposed to an X ray tube for half a second The part of film uncovered by lead is black 2 The middle film was exposed to Simpson arc for 3 minutes open ray 3 The lower film for 3 minutes focal ray The paper is in both cases as opaque to the rays as the lead

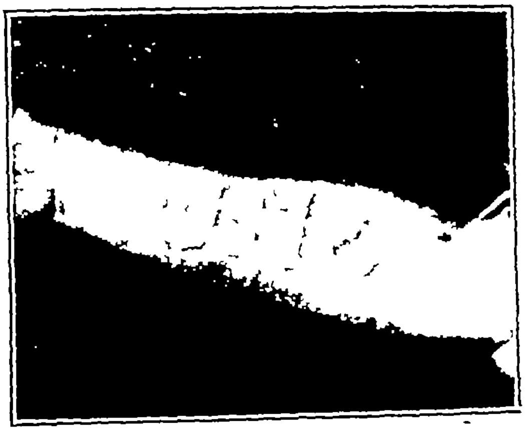
1 An irregular hole was cut in a sheet of paper, and the paper was laid on a piece of printing out paper (P O P), and exposed to the Simpson arc for three minutes at standard distance The P O P was unaffected—i e, the rays will not pass through paper

2 Three "dental films" used for the examination of dental cases by X rays, and consisting of a sensitised film wrapped in paper, were exposed, one half of each film being protected by a sheet of lead (*a*) for half a second to an X ray tube at 12 inches (the half uncovered by lead was found on development to be black), (*b*) for three minutes to the open rays of the Simpson lamp at 12 inches (on being developed the film was found unaffected) (*c*) for three minutes to the focal rays of the Simpson lamp at 12 inches (on being developed the film was found unaffected) (See Fig 1) These experiments prove that the rays from the Simpson lamp cannot influence a sensitised film through paper and that they are in no way comparable with the X rays

3 On examination of the arc produced by the Simpson lamp with Benoist's radio chromometer there is no fluorescence The radiations are not therefore, X rays

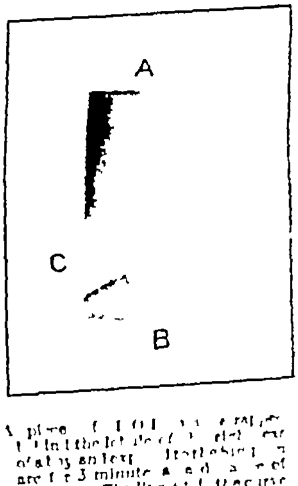
4 I cut out (*a*) a piece of aluminium 0·25 mm thick, (*b*) a piece of paper, (*c*) a single layer of gutta percha tissue, in the shape of my initials, and fastened them on my forearm with cotton wound round the limb This was exposed for three minutes at 12 inches from the lamp at 3 30 one afternoon, and the aluminium, paper, and tissue were removed By 6 30 P M an acute erythema had appeared on the forearm, bearing on it my initials in white The light had failed to penetrate any of the material, and even the cotton threads left white lines on the skin This proved that the rays given off excited an acute reaction but failed to penetrate aluminium paper a single layer of gutta percha and cotton thread I have repeated the experiment using (1) a piece of fresh human skin (taken a few minutes before from a spina bifida and kindly supplied by my colleague Mr A J Walton) (2) a piece of fresh frog's skin and (3) a piece of paper (Fig 2) The result is identical The rays from the lamp failed to penetrate any of these tissues while they set up an acute erythema around Again the cotton threads used to fasten the tissues left white lines

FIG 2



Photograph of the writer's forearm On it had been fastened by cotton thread a piece of human skin just removed from a spina bifida in shape of letter J a piece of paper shape H and a piece of fresh frog's skin shape S The limb was then exposed to the Simpson lamp for 3 minutes at a distance of 12 inches The photograph was taken 36 hours later An acute erythema was produced by the rays but they could not pass through the pieces of human and frog's skin nor the paper even the cotton threads left transverse white lines well seen in the photograph

FIG 3



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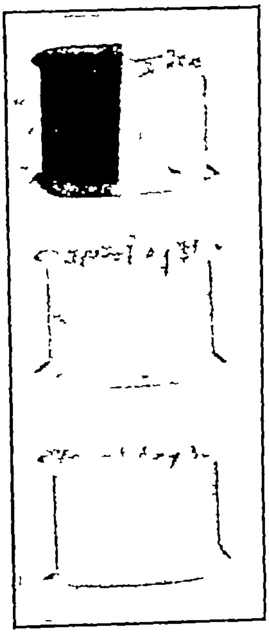

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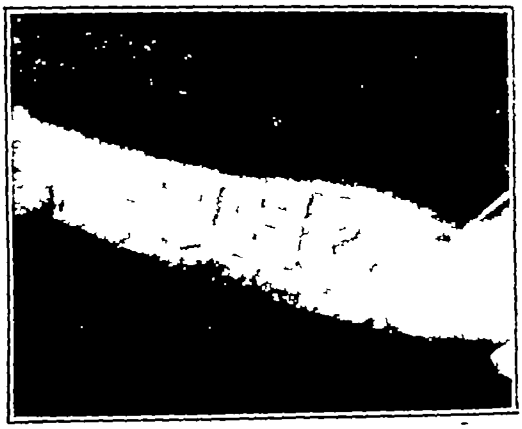

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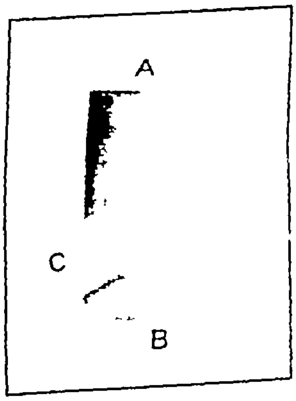


[illegible] arc for 3 minutes [illegible] The [illegible]

The reaction is identical with that seen on the neck of a lady who has worn a lace blouse while exposed to strong sunlight The pattern of the lace stands out white on the "sunburnt" area.

5 To exclude a heat ray reaction upon the fore arm of one of the sisters in my department were fastened (1) a square piece of glass, and (2) a circular disc of rock crystal, and the limb was exposed to the rays in the usual way The glass entirely stopped the rays, but the rock crystal allowed them to pass and set up an erythema Actinic rays alone have this property

6 Behind the lobule of the ear of a young patient I placed a piece of P O P and exposed the ear to the Simpson lamp for three minutes The P O P on being developed showed that the rays would not pass through the lobule of the ear nor through the piece of strapping which fastened the P O P to the auricle (See Fig 3)

I therefore conclude 1 That the rays given off by the Simpson arc are actinic rays There is no essential difference between them and actinic rays derived from other sources of light 2 That like other actinic rays they have no penetrative power They will not pass through fresh human skin, frog's skin, paper, cotton or gutta percha tissue 3 That they are not X rays and have nothing in common with X rays 4 That any deep effects which have been observed are due to counter irritation and are similar to those produced by the application of a mustard plaster or those seen from the use of light baths

Manchester-square W

Medical Societies

ROYAL SOCIETY OF MEDICINE

COMBINED MEETING OF THE SECTIONS OF MEDICINE AND OF PHARMACOLOGY AND THERAPEUTICS

Discussion on Trench Nephritis

A MEETING of these sections was held on Feb 15th Dr W HALE WHITE, President of the Section of Pharmacology and Therapeutics being in the chair

Captain W LANGDON BROWN R A M C (T F) opened a discussion on Trench Nephritis His paper is published in full on p 391

Sir WILLIAM OSLER said that the disease had not been described before with the exception of the records of the cases which occurred during the American Civil War Its main clinical characters were those of ordinary acute nephritis and like it it started quickly usually without there having been any previous disorder There were however certain peculiarities The œdema was transient and usually local general anasarca was rare Dyspnœa was unusually prominent Slight fever was present in a few of the cases which had returned to England, but it was probable that it was more common in the earlier stages The rapid improvement which coincided with the disappearance of the dropsy was remarkable and an apparent restoration to good health with persistence of the urinary changes and a high blood pressure were common Severe uræmic symptoms had occurred without dropsy and with [illegible] blood pressure Cases had been admitted showing albumin with casts and blood in the urine but without a history of dropsy the condition being detected only by routine examination Although it was the rule for the cases to end in recovery [illegible] death occurred in a few Of 113 cases [illegible] 2 ended fatally of 30 [illegible] 2 [illegible] 1 was also fatal at Oxford It [illegible] of death occurred than [illegible] in 2 of these cases In 1 case [illegible] large [illegible] the absence of injected stellate veins with the classical example described by Bright There were no signs of fatty degeneration In the second case acute nephritis had been superimposed on an old nephritis In the third case the patient died from intercurrent pleuro-pneumonia. The kidneys were sclerotic but there was also marked recent tubular and glomerular nephritis The remaining two fatal cases were accompanied by uræmia and ended rapidly, no necropsy had been made He feared that a considerable proportion of these cases of trench nephritis would become chronic. It was a good clinical rule that if in acute nephritis the urine did not become free from albumin by the end of the twelfth week, the probability was that the condition would become chronic There was evidence of persistence of the nephritis among those patients at Taplow who had been ill for more than ten weeks Nine out of 14 had a high blood pressure In 6 of the older patients high blood pressure was accompanied by commencing arterial changes Ten of the 14 passed urine of a low specific gravity For these reasons he feared that many sufferers from this condition would never have a complete restoration of the functions of the kidney

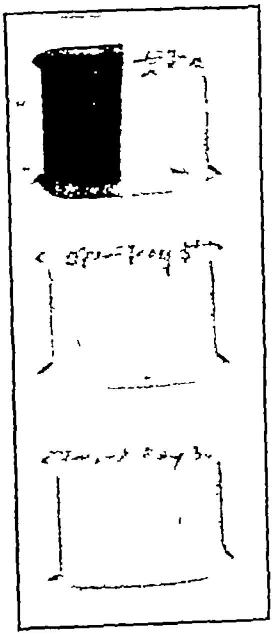
Professor F W ANDREWES had examined histologically specimens removed from 6 cases the microscopical sections of which were exhibited He had only been able to obtain one example at an early stage. In that instance sudden death had followed cerebral hæmorrhage but the clinical evidence of a recent acute nephritis was fairly conclusive Histologically he had found nothing indicative of acute nephritis, but only such changes as he would have expected to find in a man who had died from apoplexy The remaining specimens were obtained from examples of typical acute nephritis and were representative of severe trench nephritis All showed changes in the glomeruli, tubules and interstitial tissue In the glomeruli was the usual proliferation of the epithelium of the capsule, in the tubules degeneration and desquamation of the epithelium Fatty changes were slight or absent Some cellular infiltration occurred in the interstitial tissue the infiltrating cells being chiefly leucocytes whilst plasma cells were absent This corresponded with the condition of the urine, from which a deposit of leucocytes was noticeable In one case so many polymorphonuclear cells appeared in the urine that pyelitis was suspected. One case was an example of old standing nephritis which had occurred three years previously and upon which trench nephritis had been superimposed There was nothing histological to distinguish trench nephritis from other forms of acute and subacute nephritis The acute glomerular nephritis of scarlet fever was comparable in all respects with trench nephritis He had failed to find any micro-organisms in the urine or kidneys

Mr MACKENZIE WALLIS had carried out pathological investigations to determine if possible the true nature of the condition and its source of origin He spoke of the value of estimating the diastatic output as an index to the efficiency of the renal tubules In no disease was this so low as in renal disease In trench nephritis there was a definite relation between the severity of the case and the diastase content of the urine Since the ferment was excreted by the tubules its diminution in the urine of these cases indicated that the tubules were affected and the degree of its diminution indicated the extent of the damage. The test had also value in prognosis, diastase might still be diminished in the urine after the albumin had disappeared There was no evidence of any protein being present in the urine other than serum albumin and serum globulin, as in ordinary nephritis and they were present in the usual relative proportions The amount of albumin varied from a trace to 0 3 per cent as estimated by Esbach's method Microscopically, casts were constantly present and were chiefly of the hyaline variety There was a relative excess of white blood corpuscles which was also characteristic of scarlatinal nephritis In some cases there was retention of nitrogen even after the diastase excretion had returned to normal, and this had to be taken into consideration respecting the ability of the patient to return to duty The nitrogen content of the cerebro-spinal fluid had been found to be raised when uræmia was present [illegible] the second line of inquiry as to the origin of the condition, he had first considered the possibility of a co-existing intestinal toxæmia he had found that the ethereal sulphates in the urine were not in excess but markedly diminished With

led to the abandonment of the apparatus The most valuable advance hitherto has been the mercury vapour lamp of Kromayer The actinic value of the radiations produced by incandescent mercury vapour are too well known to be insisted on here In the Kromayer apparatus the necessity of rendering the parts anæmic is recognised and its therapeutic value in a number of cutaneous affections is undoubted It has been used in my clinic for years with great success, but it has not ousted the Finsen lamp in the treatment of most forms of lupus

That radiations of high actinic value have a destructive influence on bacteria and superficial bacterial affections is well known This fact was used on a large scale recently in the sterilisation of water for the large camp at Niagara Falls, and it is so widely known that it need not be insisted on here It would therefore be remarkable if a light rich in actinic rays failed to affect beneficially certain superficial bacterial affections It is claimed, however, that the Simpson lamp produces a radiation of great penetrative power, and it has been described, I presume with the authority of its exponents, in the *Times* of Jan 10th, 1916, as "a new X ray" I venture to say emphatically that the penetrative power of the light produced in the Simpson lamp is negligible, and that the radiations have nothing in common with the X rays I make this statement as a result of the following experiments —

FIG 1



Dental films exposed to Simpson light Three films were wrapped in paper half of each being covered by sheet lead 1 mm thick 1 The upper film was exposed to an X ray tube for half a second The part of film uncovered by lead is black 2 The middle film was exposed to Simpson arc for 3 minutes open ray 3 The lower film for 3 minutes focal ray The paper is in both cases as opaque to the rays as the lead

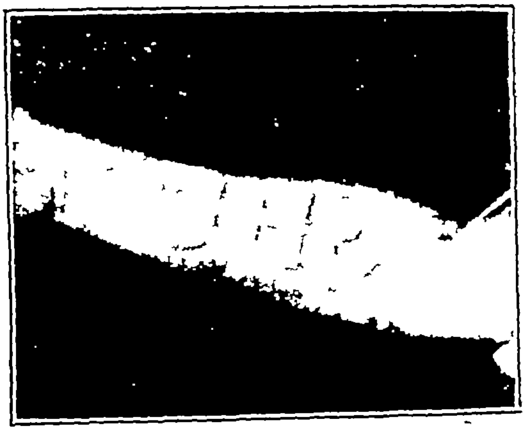
1 An irregular hole was cut in a sheet of paper, and the paper was laid on a piece of printing out paper (P O P), and exposed to the Simpson arc for three minutes at standard distance The P O P was unaffected—i e, the rays will not pass through paper

2 Three "dental films" used for the examination of dental cases by X rays, and consisting of a sensitised film wrapped in paper, were exposed, one half of each film being protected by a sheet of lead (*a*) for half a second to an X ray tube at 12 inches (the half uncovered by lead was found on development to be black), (*b*) for three minutes to the open rays of the Simpson lamp at 12 inches (on being developed the film was found unaffected) (*c*) for three minutes to the focal rays of the Simpson lamp at 12 inches (on being developed the film was found unaffected) (See Fig 1) These experiments prove that the rays from the Simpson lamp cannot pass through paper and influence a sensitised film and that they are in no way comparable with the X rays

3 On examination of the arc produced by the Simpson lamp with Benoist's radio chromometer there is no fluorescence The radiations are not, therefore, X rays

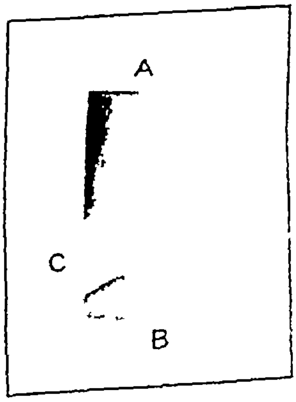
4 I cut out (*a*) a piece of aluminium 0·25 mm thick, (*b*) a piece of paper, (*c*) a single layer of gutta percha tissue in the shape of my initials, and fastened them on my forearm with cotton wound round the limb This was exposed for three minutes at 12 inches from the lamp at 3 30 one afternoon, and the aluminium, paper, and tissue were removed By 6 30 P M an acute erythema had appeared on the forearm, bearing on it my initials in white The light had failed to penetrate any of the material, and even the cotton threads left white lines on the skin This proved that the rays given off excited an acute reaction but failed to penetrate aluminium paper, a single layer of gutta percha and cotton thread I have repeated the experiment using (1) a piece of fresh human skin (taken a few minutes before from a spina bifida and kindly supplied by my colleague Mr A J Walton) (2) a piece of fresh frog's skin and (3) a piece of paper (Fig 2) The result is identical The rays from the lamp failed to penetrate any of these tissues, while they set up an acute erythema around Again the cotton threads used to fasten the tissues left white lines

FIG 2



Photograph of the writer's forearm On it had been fastened by cotton thread a piece of human skin just removed from a spina bifida in shape of letter J a piece of paper shape H and a piece of fresh frog's skin shape S The limb was then exposed to the Simpson lamp for 3 minutes at a distance of 12 inches The photograph was taken 36 hours later An acute erythema was produced by the rays but they could not pass through the pieces of human and frog's skin nor the paper even the cotton threads left transverse white lines well seen in the photograph

FIG 3



A piece [illegible] [illegible] [illegible] [illegible] 3 minutes [illegible] 12 inches [illegible] [illegible] The [illegible] [illegible] The rays failed to pass [illegible] [illegible]

The reaction is identical with that seen on the neck of a lady who has worn a lace blouse while exposed to strong sunlight The pattern of the lace stands out white on the "sunburnt" area.

5 To exclude a heat ray reaction upon the fore arm of one of the sisters in my department were fastened (1) a square piece of glass, and (2) a circular disc of rock crystal, and the limb was exposed to the rays in the usual way The glass entirely stopped the rays, but the rock crystal allowed them to pass and set up an erythema Actinic rays alone have this property

6 Behind the lobule of the ear of a young patient I placed a piece of P O P and exposed the ear to the Simpson lamp for three minutes The P O P on being developed showed that the rays would not pass through the lobule of the ear nor through the piece of strapping which fastened the P O P to the auricle (See Fig 3)

I therefore conclude 1 That the rays given off by the Simpson arc are actinic rays There is no essential difference between them and actinic rays derived from other sources of light 2 That like other actinic rays they have no penetrative power They will not pass through fresh human skin, frog's skin, paper, cotton or gutta percha tissue 3 That they are not X rays and have nothing in common with X rays 4 That any deep effects which have been observed are due to counter irritation and are similar to those produced by the application of a mustard plaster or those seen from the use of light baths

Manchester square W

Medical Societies

ROYAL SOCIETY OF MEDICINE

COMBINED MEETING OF THE SECTIONS OF MEDICINE AND OF PHARMACOLOGY AND THERAPEUTICS

Discussion on Trench Nephritis

A MEETING of these sections was held on Feb 15th Dr W HALE WHITE, President of the Section of Pharmacology and Therapeutics being in the chair

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Captain R G **ABERCROMBIE**, R.A M C (temp), who had been working in France, had seen over 500 cases during the acute phase In their early stages they presented the characteristics of acute nephritis of moderate severity The most constant symptoms were headache and dyspnœa The blood pressure showed diurnal variations of from 30 to 60 mm of Hg, the morning reading being low and the evening high The bouts of dyspnœa were nearly always nocturnal, and it was therefore open to question whether they were due to the rapid rise of blood pressure At the beginning of the disease fever was present the temperature being about 101° F In about half of the cases there were premonitory symptoms, these in order of frequency being bronchitis, pains in the back and limbs, and abdominal pains and vomiting Tonsillitis was exceedingly rare, but laryngitis was more common Convulsions had occurred in 14 cases and for their treatment lumbar puncture and venesection, especially if accompanied by saline infusion, seemed valuable Mania was met with in 4, amaurosis in 3 Fundal changes were not seen in any during the first three weeks Two occasional associations, herpes and bilateral parotitis supported the contention that the condition was infective in origin A well defined group could be separated in which the symptoms suggested pyelitis, cystitis or prostatitis In them œdema, fever, and rise of blood pressure did not occur but casts might, however, appear in the urine Of some 500 cases 4 ended fatally, 1 before the end of the first week The kidneys in this case showed but slight macroscopic changes Microscopically the lesion was essentially one of the tubules with some interstitial change. The spleen was enlarged and the tracheal mucous membrane granular As regards the causation, the cases were scattered, but occurred chiefly at the front and in definite small epidemics The men were more liable to the disease in certain areas His own impression, based on the clinical symptoms and the characters of the epidemic, was that the disease was infective.

After Dr W **MAIR** had spoken, Captain **LANGDON BROWN** briefly replied

ROENTGEN SOCIETY

The Injurious Effects Produced by the X Rays

A general meeting of this society was held on Feb 1st, Mr F C **GARDINER** the President, being in the chair A discussion on the Injurious Effects Produced by the X Rays was opened by Dr **SIDNEY RUSS** After pointing out how desirable it was that this subject should be discussed by medical men, physicists, and the manufacturers of apparatus, and how the Roentgen Society provided a common ground where they could meet for this purpose he considered that the dangers attending the use of the X rays could be classed under two heads—those to the patient from misapplication and those to the operator through being continually exposed to numerous small doses Skill on the part of the operator obviated the former—and no one should be allowed to administer X rays without having first proved his competency to do so—while proper construction of apparatus and proper care in its use would obviate the latter Inasmuch as the output of the modern X ray tube was about 50 times that of ten years ago and as there was many times more X ray work done these counted as increased dangers to the operator, on the other hand, there was no doubt that the dangers themselves were more appreciated by radiologists, who took more care in consequence and this tended to reduce the dangers of radiological practice As regards the injuries there was no need to dwell on the more obvious ones, and he drew attention to the hidden dangers of X ray action mentioning particularly the blood changes which occurred after undue exposure He thought it was proved that the red cell content in the case of X ray operators was frequently below the normal, and in many cases the white cell content also The diminution in certain of the white cells however, was much more marked than in others Some, indeed, appeared to show a marked increase under the X ray stimulus. The lymphocytes were below the normal in almost every case which had been examined.

Sir **JAMES MACKENZIE DAVIDSON** told the meeting that in the early days, being made aware of the baneful possibilities of the X rays, he enclosed the tube entirely in a wooden box coated on its inner side with a thick putty made up of white and red lead, a hole was cut in the lid of the box, against which the anterior part of the tube was secured by means of elastic bands Thus the radiation was kept under control and all rays save those coming through the aperture in the lid were cut off For screen work he had followed the plan of placing a large lead barrier around the tube thus protecting the observer, who was enabled to watch the screen image reflected in a fine plate-glass mirror placed at the appropriate angle

On the general question of legislative or other action, Dr G H **RODMAN** suggested that the General Medical Council be asked to take up the matter, and make it necessary that before a man was allowed to qualify he should be as fully acquainted with the dangers of the X ray tube as he was with the dangers of strychnine

Dr C **FRED BAILEY**, of Brighton, said that he worked with his tube enclosed in a large lead glass bulb and was himself barricaded behind a large screen, so that it did not seem probable that any X rays were received directly by the operator There remained, however, the ionisation of the air by X rays and this was possibly dangerous to those who had to work in the X ray room for hours at a stretch

Dr **REGINALD MORTON**, while approving of the use of any protective devices that were efficient, thought there was a tendency to exaggerate the dangers of X ray practice probably because we were occasionally confronted with the terrible injuries suffered by many of those who were the pioneers in this work It should be remembered that there were quite as many who like himself, had been more or less actively engaged in this way since 1895, when Roentgen announced his discovery, without suffering any inconvenience worth mentioning While there was a certain degree of cumulativeness regarding X ray effects it was not by any means absolute, otherwise he would not have got off so lightly seeing that he was of necessity receiving many small doses of the rays, both primary and secondary nearly every day of his life The experience of Dr Rodman showed that recovery was possible after receiving what was in his case a pronounced X ray effect He (Dr Morton) did not consider that secondary radiations were worth troubling about, even with the use of special devices to secure their most efficient action they were not found to have enough effect on the tissues to be of any practical value It was the primary X rays emanating from the centre of the anticathode that were the really dangerous rays and if reasonable precautions were taken the risks even here were reduced to a very small value The most dangerous rays were the ones most easily arrested and so long as the operator had never been burnt it was remarkable what relatively simple protective devices were sufficient While it was quite true that electroscopes and photographic plates would be affected in any part of the X ray room even with the tube inclosed in a protective box such tests proved no more than that there were actinic rays present not necessarily rays injurious to the tissues of the operator He wished to disclaim any intention to minimise the dangerous properties of the X rays they were far too real for that, but he thought there was nothing to be gained by exaggerating them and that it was just as well to look on the brighter side for a change At the same time unless the operator exercised common sense—which included common prudence—in this important matter he would most likely suffer however elaborate were his protective devices

Dr W HARWOOD NUTT said that some X ray workers were returning from the seat of war with badly ulcerated arms and hands, and he himself was of opinion that no man could protect himself adequately against the danger unless the tube was protected The ionisation effect of the atmosphere might be prevented, he thought, by efficient ventilation if two electric fans were used, one to draw air into the room, and the other to draw it out.

Dr N S FINZI said that one of his assistants had placed an enclosed Sabouraud pastille on the front of his protective apron and another on the back. The pastille in front turned to the "B" tint in ten days, or a fortnight's hard work (every morning and four afternoons a week) but the pastille in the back of the apron was not more than half turned after six weeks One pastille dose in three months did not seem likely to do the operator any harm, even if continued over a long period

The discussion was adjourned to the next meeting

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF SURGERY

A New Substance for Pyelography —Aneurysm due to Bullet Wounds

A MEETING of this section was held on Dec 3rd, Mr WILLIAM TAYLOR being in the chair

Mr A A McCONNELL read a short note on a New Substance for Pyelography He stated that he had asked Professor W Caldwell, of the Royal College of Surgeons, Ireland, for a substitute for collargol which would be non irritating, opaque to the X rays, and capable of flowing through a fine ureteral catheter Professor Caldwell had made a preparation of bismuth which had not been made before, and which had these properties The exact composition could not be given as patent rights were being obtained The provisional name given to the substance was 'Skirol." Mr McConnell showed several radiograms of the renal pelvis injected with skirol, and stated that he had obtained better results with this preparation than with collargol All the skirol was washed out of the pelvis before any perceptible precipitation took place Radiograms taken the following day showed no trace in the pelvis In no case were there any objectionable sequelæ

Mr C ARTHUR BALL read notes on two cases of Aneurysm due to Bullet Wounds The first case was that of an officer who was wounded on April 25th 1915 at St Julien Two pieces of a broken bullet entered the right thigh After 12 or 14 days he noticed a pulsation over one of the wounds but he was told this was only the 'femoral pulse' At a medical board on July 10th 1915, the aneurysm was discovered, although the patient himself thought he was fit for duty At the operation the artery was exposed and a Crile's clamp applied above and below The sac was dissected out, and as Matas's operation was not possible the artery was ligatured above and below the sac. The following morning the foot was warm no pain was felt and pulsation was present in the dorsalis pedis artery so that it seemed likely the collateral circulation had been previously established The second case was an aneurysm of the axillary artery Private —— was wounded at Loos on Sept 25th 1915 The bullet entered just below the outer end of the right clavicle X ray examination showed a comminuted fracture of the surgical neck of the humerus *The bullet lay in the* thorax The wound healed in a few days and the limb was put in plaster of Paris About three weeks later a pulsating swelling was noticed about the second and third stages of the axillary artery When the subclavian artery was controlled the swelling diminished to about half its size The third stage of the subclavian artery was ligatured No alteration in the temperature of the limb was subsequently noticed A pain which he had referred to in the hand immediately became less the arm and hand rapidly recovered power with the exception of the area supplied by the ulnar nerve, and this was improving There had been no return of pulsation at the site of aneurysm and the swelling had disappeared

SECTION OF ANATOMY AND PHYSIOLOGY

The Daily Food Ration of Great Britain

A meeting of this section was held on Jan 14th, Dr [illegible] in the chair

Professor W H THOMPSON read a paper on the Daily Food Ration of Great Britain He said that a survey of the total food supply of Great Britain for the year of the first census of production (1908), the only year for which it was so far possible to make anything like an accurate computation, showed the daily food supply per man of the population, as calculated from the returns, to be as follows —

Flour and meal	14¼ oz		Condensed milk	⅓ oz.
Flesh meat	8 ,,		Less than half an egg	
Fish	2 ,,		Fresh fruit	3⅗ ,,
Potatoes	15¼ ,,		Dried fruits and nuts	½ ,,
Other vegetables	4¾ ,,		Cocoa and chocolate	1/16 ,,
Milk	⅗ pint.		Salad oil	1/100 ,,
Butter	1 oz			
Cheese	⅓ ,,			

This ration provided 101 49 grammes of protein, 587 12 grammes of carbohydrate 136 36 grammes of fat, and gave an energy value of 4,127 calories The returns do not, however, include all the home supply of cheese, eggs, poultry, or rabbit meat The estimate of green vegetables consumed as human food, particularly of cabbage, is probably also too low Making additions to cover these omissions would bring the ration up to Protein, 104 26 grammes, carbohydrate, 587 84 grammes, fat, 138 83 grammes, energy value, 4 167 calories As a fair estimate it would be safe to say that the British food ration per man per day does not exceed 105 grammes of protein, 590 grammes of carbohydrate, and 140 grammes of fat with an energy value of 4190 calories Making deductions for the loss in distribution, the value of the ration, as purchased, would approximately be Protein, 97 grammes, carbohydrate, 345 grammes, fat, 132 grammes, energy value, 3875 calories This did not provide more than enough for moderately hard muscular work The ration was remarkable in the relatively large amount of fat it contained, but in this respect it corresponded closely with the estimate of the German food supply before the war, as published by the Eltzbacher Committee[1] Two conclusions were drawn—namely, (1) that the tendency in urban and industrial populations was to increase the consumption of fat at the expense of the protein, and (2) that the ration could not well be reduced without endangering the efficiency of the working man Economy could however, be introduced by substituting protein from vegetable sources for a further part of the more costly meat supply

ULSTER MEDICAL SOCIETY

Cancer of the Stomach

AT a meeting of the Ulster Medical Society held in the Medical Institute, Belfast, on Feb 10th Dr GARDINER ROBB, the President being in the chair, a discussion on Cancer of the Stomach was introduced from the medical aspect by Professor J A LINDSAY and from the surgical by Mr A B MITCHELL

Professor LINDSAY analysed 40 cases of cancer of the stomach 23 male and 17 female, which had been under his care in the Royal Victoria Hospital, Belfast during the years 1902-15 Most were between the ages of 50 and 60 There was a family history of cancer in 4 and a personal history of gastric ulcer in 5 cases The most common "signal symptom"—present in 15 cases—was painful dyspepsia, while loss of appetite was noted in only two of the cases Pyrexia occurred in 19 On examination of the gastric contents free HCl was absent in 71 per cent and present in 29 per cent. In 15 cases a tumour was noticed, and enlargement of the liver was the most frequent complication Special attention was drawn to the history and the physical signs in making the diagnosis, and where those failed time and negative results of treatment would settle the question

Mr MITCHELL said that cancer of the gastro-intestinal tract was a very favourable form for surgical intervention if attacked sufficiently early When, however palpable tumour could be made out the disease was already in an advanced stage The surgeon unfortunately, rarely saw cases till the presence of a tumour made the diagnosis and prognosis alike certain Results were steadily improving and the operative risk might be put at from 10 to 15 per cent Physicians mineral poisoning the diastase content was also subnormal, but careful examination of the urine had failed to reveal the presence of any mineral poison To discover a possible parasitic origin he had resorted to inoculation experiments on animals using blood serum, cerebro spinal fluid, and catheter specimens of urine The urine was shown to be remarkably toxic, but the chemical characters of the toxic agent had not been determined Apparently there was a powerful toxin circulating in the blood and excreted in the urine He had repeated the experiments with scarlatinal nephritis, but obtained no results which were comparable In the trench nephritis cases an illness was produced without exception on the eighth day Two animals had died with albuminuria six days after injection, but post mortem there was no histological evidence of nephritis Urine which had been heated to 55° C produced no illness when injected, but an unheated filtrate did

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[1] The Lancet Feb 20th 1915 p 3[illegible]

Captain R G Abercrombie, R A M C (temp), who had been working in France, had seen over 500 cases during the acute phase In their early stages they presented the characteristics of acute nephritis of moderate severity The most constant symptoms were headache and dyspnœa. The blood pressure showed diurnal variations of from 30 to 60 mm of Hg, the morning reading being low and the evening high The bouts of dyspnœa were nearly always nocturnal, and it was therefore open to question whether they were due to the rapid rise of blood pressure. At the beginning of the disease fever was present the temperature being about 101° F In about half of the cases there were premonitory symptoms, these in order of frequency being bronchitis, pains in the back and limbs, and abdominal pains and vomiting Tonsillitis was exceedingly rare, but laryngitis was more common Convulsions had occurred in 14 cases and for their treatment lumbar puncture and venesection, especially if accompanied by saline infusion, seemed valuable Mania was met with in 4, amaurosis in 3 Fundal changes were not seen in any during the first three weeks Two occasional associations, herpes and bilateral parotitis supported the contention that the condition was infective in origin. A well defined group could be separated in which the symptoms suggested pyelitis, cystitis or prostatitis In them œdema, fever, and rise of blood pressure did not occur, but casts might, however, appear in the urine Of some 500 cases 4 ended fatally, 1 before the end of the first week The kidneys in this case showed but slight macroscopic changes Microscopically the lesion was essentially one of the tubules with some interstitial change The spleen was enlarged and the tracheal mucous membrane granular As regards the causation, the cases were scattered, but occurred chiefly at the front and in definite small epidemics The men were more liable to the disease in certain areas His own impression, based on the clinical symptoms and the characters of the epidemic, was that the disease was infective

After Dr W Main had spoken, Captain Langdon Brown briefly replied

ROENTGEN SOCIETY

The Injurious Effects Produced by the X Rays

A general meeting of this society was held on Feb 1st Mr F O Gardiner, the President, being in the chair

A discussion on the Injurious Effects Produced by the X Rays was opened by Dr Sidney Russ After pointing out how desirable it was that this subject should be discussed by medical men, physicists, and the manufacturers of apparatus and how the Roentgen Society provided a common ground where they could meet for this purpose he considered that the dangers attending the use of the X rays could be classed under two heads—those to the patient from misapplication and those to the operator through being continually exposed to numerous small doses Skill on the part of the operator obviated the former—and no one should be allowed to administer X rays without having first proved his competency to do so—while proper construction of apparatus and proper care in its use would obviate the latter Inasmuch as the output of the modern X ray tube was about 50 times that of ten years ago and as there was many times more X ray work done, these counted as increased dangers to the operator, on the other hand, there was no doubt that the dangers themselves were more appreciated by radiologists who took more care in consequence and this tended to reduce the dangers of radiological practice As regards the injuries, there was no need to dwell on the more obvious ones, and he drew attention to the hidden dangers of X ray action mentioning particularly the blood changes which occurred after undue exposure He thought it was proved that the red cell content in the case of X ray operators was frequently below the normal, and in many cases the white cell content also The diminution in certain of the white cells however, was much more marked than in others Some, indeed, appeared to show a marked increase under the X ray stimulus. The lymphocytes were below the normal in almost every case which had been examined

Sir James Mackenzie Davidson told the meeting that in the early days, being made aware of the baneful possibilities of the X rays, he enclosed the tube entirely in a wooden box coated on its inner side with a thick putty made up of white and red lead, a hole was cut in the lid of the box, against which the anterior part of the tube was secured by means of elastic bands Thus the radiation was kept under control and all rays save those coming through the aperture in the lid were cut off For screen work he had followed the plan of placing a large lead barrier around the tube, thus protecting the observer who was enabled to watch the screen image reflected in a fine plate-glass mirror placed at the appropriate angle

On the general question of legislative or other action Dr G H Rodman suggested that the General Medical Council be asked to take up the matter, and make it necessary that before a man was allowed to qualify he should be as fully acquainted with the dangers of the X ray tube as he was with the dangers of strychnine

Dr C Fred Bailey, of Brighton, said that he worked with his tube enclosed in a large lead glass bulb and was himself barricaded behind a large screen, so that it did not seem probable that any X rays were received directly by the operator There remained, however, the ionisation of the air by X rays, and this was possibly dangerous to those who had to work in the X ray room for hours at a stretch

Dr Reginald Morton, while approving of the use of any protective devices that were efficient, thought there was a tendency to exaggerate the dangers of X ray practice, probably because we were occasionally confronted with the terrible injuries suffered by many of those who were the pioneers in this work It should be remembered that there were quite as many who like himself, had been more or less actively engaged in this way since 1895 when Roentgen announced his discovery, without suffering any inconvenience worth mentioning While there was a certain degree of cumulativeness regarding X ray effects, it was not by any means absolute, otherwise he would not have got off so lightly, seeing that he was of necessity receiving many small doses of the rays, both primary and secondary nearly every day of his life The experience of Dr Rodman showed that recovery was possible after receiving what was in his case a pronounced X ray effect. He (Dr Morton) did not consider that secondary radiations were worth troubling about, even with the use of special devices to secure their most efficient action they were not found to have enough effect on the tissues to be of any practical value It was the primary X rays emanating from the centre of the anticathode that were the really dangerous rays and if reasonable precautions were taken, the risks even here, were reduced to a very small value The most dangerous rays were the ones most easily arrested and so long as the operator had never been 'burnt' it was remarkable what relatively simple protective devices were sufficient While it was quite true that electroscopes and photographic plates would be affected in any part of the X ray room even with the tube inclosed in a protective box such tests proved no more than that there were actinic rays present not necessarily rays injurious to the tissues of the operator He wished to disclaim any intention to minimise the dangerous properties of the X rays they were far too real for that, but he thought there was nothing to be gained by exaggerating them and that it was just as well to look on the brighter side for a change At the same time unless the operator exercised common sense—which included common prudence—in this important matter he would most likely suffer however elaborate were his protective devices

Dr W HARWOOD NUTT said that some X ray workers were returning from the seat of war with badly ulcerated arms and hands, and he himself was of opinion that no man could protect himself adequately against the danger unless the tube was protected The ionisation effect of the atmosphere might be prevented, he thought, by efficient ventilation if two electric fans were used, one to draw air into the room and the other to draw it out.

Dr N S FINZI said that one of his assistants had placed an enclosed Sabouraud pastille on the front of his protective apron and another on the back. The pastille in front turned to the "B" tint in ten days, or a fortnight's hard work (every morning and four afternoons a week) but the pastille in the back of the apron was not more than half turned after six weeks One pastille dose in three months did not seem likely to do the operator any harm, even if continued over a long period.

The discussion was adjourned to the next meeting

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF SURGERY

A New Substance for Pyelography —Aneurysm due to Bullet Wounds

A MEETING of this section was held on Dec 3rd Mr WILLIAM TAYLOR being in the chair

Mr A A MCCONNELL read a short note on a New Substance for Pyelography He stated that he had asked Professor W Caldwell, of the Royal College of Surgeons Ireland for a substitute for collargol which would be non irritating opaque to the X rays and capable of flowing through a fine ureteral catheter Professor Caldwell had made a preparation of bismuth which had not been made before and which had these properties The exact composition could not be given as patent rights were being obtained The provisional name given to the substance was 'Skirol' Mr McConnell showed several radiograms of the renal pelvis injected with skirol and stated that he had obtained better results with this preparation than with collargol All the skirol was washed out of the pelvis before any perceptible precipitation took place Radiograms taken the following day showed no trace in the pelvis In no case were there any objectionable sequelæ

Mr C. ARTHUR BALL read notes on two cases of Aneurysm due to Bullet Wounds The first case was that of an officer who was wounded on April 25th 1915 at St. Julien Two pieces of a broken bullet entered the right thigh After 12 or 14 days he noticed a pulsation over one of the wounds, but he was told this was only the 'femoral pulse' At a medical board on July 10th 1915 the aneurysm was discovered although the patient himself thought he was fit for duty At the operation the artery was exposed and a Crile s clamp applied above and below The sac was dissected out and as Matas s operation was no possible the artery was ligatured above and below the sac. The following morning the foot was warm no pain was felt and pulsation was present in the dorsalis pedis artery so that it seemed likely the collateral circulation had been previously established The second case was an aneurysm of the axillary artery Private —— was wounded at Loos on Sept 25th 1915 The bullet entered just below the outer end of the right clavicle X ray examination showed a comminuted fracture of the surgical neck of the humerus The bullet lay in the thorax The wound healed in a few days and the limb was put in plaster-of Paris About three weeks later a pulsating swelling was noticed along the second and third stages of the axillary artery When the subclavian artery was controlled the swelling diminished to about half its size The third stage of the subclavian artery was ligatured No alteration in the temperature of the limb was subsequently noted [illegible] became [illegible] which had referred to in the hand [illegible] recovered power [illegible] arm and hand rapidly [illegible] supplied by the ulnar nerve and [illegible] of the area [illegible] There had been no [illegible] and the swelling had disappeared [illegible]

[illegible] AND [illegible]

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Professor W H THOMPSON read a paper on the Daily Food Ration of Great Britain He said that a survey of the total food supply of Great Britain for the year of the first census of production (1908), the only year for which it was so far possible to make anything like an accurate computation, showed the daily food supply per man of the population, as calculated from the returns, to be as follows —

Flour and meal	14½ oz	Condensed milk	¼ oz
Flesh meat	8 ,,	Less than half an egg	
Fish	2 ,,	Fresh fruit	3⅕ ,,
Potatoes	15½ ,,	Dried fruits and nuts	½ ,,
Other vegetables	4¾ ,,	Cocoa and chocolate	1/16 ,,
Milk	¾ pint.	Salad oil	1/100 ,,
Butter	1 oz		
Cheese	½ ,,		

This ration provided 101 49 grammes of protein 587 12 grammes of carbohydrate 136 36 grammes of fat, and gave an energy value of 4 127 calories The returns do not, however, include all the home supply of cheese, eggs, poultry, or rabbit meat The estimate of green vegetables consumed as human food particularly of cabbage, is probably also too low Making additions to cover these omissions would bring the ration up to Protein, 104 26 grammes, fat, 138 83 grammes, carbohydrate, 587 84 grammes, energy value, 4 167 calories As a fair estimate it would be safe to say that the British food ration per man per day does not exceed 105 grammes of protein, 140 grammes of fat, 590 grammes of carbohydrate, with an energy value of 4190 calories Making deductions for the loss in distribution, the value of the ration, as purchased, would approximately be Protein, 97 grammes, fat, 132 grammes, carbohydrate 345 grammes, energy value 3875 calories This did not provide more than enough for moderately hard muscular work The ration was remarkable in the relatively large amount of fat it contained, but in this respect it corresponded closely with the estimate of the German food supply before the war as published by the Eltzbacher Committee[1] Two conclusions were drawn—namely (1) that the tendency in urban and industrial populations was to increase the consumption of fat at the expense of the protein, and (2) that the ration could not well be reduced without endangering the efficiency of the working man Economy could however, be introduced by substituting protein from vegetable sources for a further part of the more costly meat supply

ULSTER MEDICAL SOCIETY

Cancer of the Stomach

AT a meeting of the Ulster Medical Society held in the Medical Institute Belfast, on Feb 10th Dr GARDINER ROBB, the President being in the chair, a discussion on Cancer of the Stomach was introduced from the medical aspect by Professor J A LINDSAY and from the surgical by Mr A B MITCHELL

Professor LINDSAY analysed 40 cases of cancer of the stomach 23 male and 17 female, which had been under his care in the Royal Victoria Hospital Belfast, during the years 1902-15 Most were between the ages of 50 and 60 There was a family history of cancer in 4 and a personal history of gastric ulcer in 5 cases The most common signal symptom —present in 15 cases—was painful dyspepsia, while loss of appetite was noted in only two of the cases Pyrexia occurred in 19 On examination of the gastric contents free HCl was absent in 71 per cent. and present in 29 per cent. In 15 cases a tumour was noticed, and enlargement of the liver was the most frequent complication Special attention was drawn to the history and the physical signs in making the diagnosis and where those failed time and negative results of treatment would settle the question

Mr MITCHELL said that cancer of the gastro-intestinal tract was a very favourable form for surgical intervention if attacked sufficiently early When, however palpable tumour could be made out the disease was already in an advanced stage The surgeon unfortunately rarely saw cases till the presence of a tumour made the diagnosis and prognosis alike certain [illegible] were steadily improving and the operative [illegible] might be p[illegible] from 10 to 15 per cent Physicians should, therefore, once they had a *reasonable suspicion* that cancer of the stomach was present, take their patient fully into their confidence and advise an exploratory operation During the last three years he (Mr Mitchell) had done six partial gastrectomies, the amount removed varying from one half to three quarters of the stomach, with one death, and four gastro-jejunostomies without a death and with marked temporary benefit The longest duration of life after gastrectomy in his own work was over five years the patient being still alive and well The presence of febrile temperature or of anæmia of the pernicious type were contra indications to operation A series of interesting specimens of resected malignant growths was shown

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[1] THE LANCET Fe[illegible] 20th, 1915 p [illegible]

Sir **JOHN BYERS** would apply the same principles to the upper as they did to the lower abdomen—viz, to open and look at and feel the parts directly as a means, first, of diagnosis and, secondly, of treatment To wait until the patient made the diagnosis was simply to put off all chance of any surgical success Once there was a suspicion of malignancy, the sooner the abdomen was opened the better

Mr **ROBERT CAMPBELL** considered the first symptom of cancer of the stomach to be a lack of desire for food, then loss of flesh, which was attributed by the patient to the anorexia If at this period food was taken it caused no pain or dyspeptic symptom When pyrexia and a pulse-rate of over 100 were present he thought secondary involvement of the liver had already begun One patient of his was now alive and well, eight years after excision of a cancerous growth from the stomach, and this was the first successful case in Ireland Another lived for five and a half years If a patient complained of a decided dislike for food, and on examination free hydrochloric acid was absent, the surgeon should at once open the abdomen and be prepared to excise any growth discovered.

Dr **W CALWELL** agreed that loss of appetite was the first symptom A blood examination served readily to distinguish pernicious anæmia from cancer of the stomach. In the presence of any serious stomach symptoms ordinary non malignant disease should be eliminated by every modern method of investigation, and the surgeon then asked to explore

Dr **W W D THOMSON** urged the necessity of a proper examination of the stomach contents by a skilled pathologist The following are the signs showing when cancer had already begun (1) Stasis of food, (2) absence of hydrochloric acid, (3) occult blood in stomach and fæces, and (4) presence of the Boas-Oppler bacillus and sarcinæ Symptoms like those of pernicious anæmia pointed to secondary involvement of the bone medulla, as had been shown by Dr Thomas Houston, of Belfast

Dr **M F CAHILL** believed some cases diagnosed as cancer of the stomach were syphilitic.

Professor **LINDSAY**, in reply, said that the discussion had shown that operative interference must be considered most carefully in dealing with cancer of the stomach In fairness to the physicians he pointed out that it was only within the last three years that the great progress made had justified this action

Mr **MITCHELL** stated that all the specimens he had removed from the stomach had been examined and found to be malignant In none was there evidence of syphilis which, in agreement with Professor Lindsay, he considered a rare disease in the stomach

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HARVEIAN SOCIETY OF LONDON—A clinical meeting of this society was held on Feb 3rd at the Hospital for Epilepsy and Paralysis Maida Vale, Dr Edmund Cautley, the President being in the chair—Dr Leonard Guthrie and Dr F G Fearnsides showed the following cases 1 A soldier with Cauda Equina lesion due to shrapnel wound, having complete loss of power in the left and paresis of the right leg the chief feature of the case being attacks of intestinal obstruction and loss of control over the bladder and rectum 2 A man aged 56 suffering from lesion of the Corpus Striatum the symptoms commencing with eccentricity and suicidal tendencies and developing into dumbness and inability to move the limbs which were the seat of contractures The reflexes were present he took notice of his surroundings but had incontinence of urine and fæces 3 and 4 Soldiers with limitation of visual fields resulting from wounds in the parieto-occipital and occipito-mastoid regions respectively 5 A case of Tabes Dorsalis with Charcot's knee joint 6 A case of Reflex Spasticity following bullet wound near the spine at the level of the tenth rib 7 Myopathy with contractures in a woman aged 19 years 8 Mental Amblyopia in a woman following insomnia, the optic discs being normal but fields very contracted 9 A case of Disseminated Sclerosis sent in to the hospital as hysteria. 10 A case of Cervical Amyotrophic Lateral Sclerosis in a female aged 50 years 11 Case of Optic Neuritis probably due to cerebral tumour—The President and Dr Wilfrid Dawson also showed a case of considerable Fatty Enlargement of the Legs and Arms in a young woman the feet, hands, and the rest of the body being unaffected

At a meeting to be held on Thursday next Feb 24th, at the Stafford Rooms, Titchborne-street, Edgware road, at 8 30 P M, Sir Berkeley Moynihan will open a discussion on the Treatment of Gunshot Wounds Mr D Arcy Power, Mr F F Burghard, Mr Percy Sargent, Mr W H Clayton Greene, and Mr A Fleming expect to take part The President and council cordially invite all members of the profession to be present who may be desirous of hearing the discussion

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY—The annual meeting was held on Jan 21st at St Mary's Hospital, Manchester, Dr J H Willett, the President, being in the chair—Mr Carlton Oldfield (Leeds) exhibited a specimen of Retained Menses in One Half of a Double Uterus The patient had severe abdominal pain, suggestive of appendicitis and it was only when the abdomen was opened that it was discovered that the uterus was double, and one side much distended with retained menses owing to absence of an os on that side The vagina did not possess a septum—Dr W E Fothergill (Manchester) opened a discussion on the Notification of the So called Puerperal Fever It was pointed out that though Semmelweis showed before 1850 that there was no such infectious disease as "puerperal fever" the continued use of the term in the registration of deaths and under the Notification of Infectious Diseases Act had kept up the idea that such a disease existed But though births deaths and marriages might be counted it was no more possible to enumerate cases of puerperal pelvic infection than it was to enumerate cases of wound infection in general The official figures for 1912 for example, showed that in Liverpool 78 per cent. of cases notified as puerperal fever were fatal, while in Manchester only 16 3 per cent of the cases notified as puerperal fever died Such a discrepancy was enough to show that the notification of so-called puerperal fever was a farce It had never done any good for the reduction of late years in the mortality from puerperal fever was due to the education of doctors midwives and the public in clean midwifery, just as the reduction of deaths from wound infection was due to clean surgery and not to notification—The paper was discussed by Dr Scott Dr A Donald Dr Oldfield, Dr W F Shaw Dr T I Grimsdale and the President—Owing to the continuance of the war it was resolved that the present officers be re-elected for the year 1916 and that no meeting of the society be held until the annual meeting in January 1917 unless the course of events altered and made it desirable to hold one in October

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THE LATE MR WALTER G CARNT—The death occurred at Ryde, Isle of Wight on Feb 4th, of Mr W G Carnt formerly superintendent and secretary of the Royal Infirmary Manchester He had been severely ailing for some considerable time before his retirement in August last As early as 1880 Mr Carnt obtained a clerkship in the Civil Service. In 1892 he was appointed secretary of the Derbyshire Royal Infirmary and to the corresponding office in Manchester in 1906 when the building of the new infirmary had been begun Mr Carnt's experience was of great value to those concerned with the erection of the infirmary itself as well as of the central branch for accidents He was a most devoted and [illegible] superintendent and his unstinted efforts on behalf of the infirmary were much appreciated The annual income was more than doubled under his [illegible] care The board of management on his retirement placed on record [illegible] that Mr Carnt's services had been [illegible] A memorial service was held in the Chapel of the Infirmary on the day of the funeral Feb 8th

Reviews and Notices of Books.

The Cancer Problem

By WILLIAM SEAMAN BAINBRIDGE, A.M., Sc.D., M.D., Professor of Surgery, New York Polyclinic Medical School and Hospital; Surgeon and Secretary of Committee of Scientific Research, New York Skin and Cancer Hospital. New York: The Macmillan Company. Pp. 533. Price 17s. net.

THE problem of cancer is always with us. We know nothing for certain as to its exact etiology, and though surgery can accomplish much if the case is seen early, we have no satisfactory treatment for those cases in which surgery is not available. The matter is of great importance, for the number of patients suffering from cancer seems definitely to be increasing, and the whole of this increase cannot be explained away by greater accuracy of diagnosis and record. The literature of the subject is voluminous, and it is practically impossible for anyone who has but a limited amount of time to devote to the subject to cover all that is known as to the mode of production, the histopathology and the various methods of treatment which have been employed. There is certainly, therefore, a need for a work which will put together in one volume the gist of all that is known of the matter, so that medical men and even laymen desirous of learning the present position of this subject will be able in a reasonable time to ascertain the essential part of what is known about cancer. This difficult task has been accomplished in a successful manner by Dr. Bainbridge.

He starts with a brief account of the history of the disease and he then describes the establishment of institutions in various countries for the study of cancer. The next section is devoted to the distribution of the disease in plants and animals, and in the various parts of the world. Especially good is the chapter on the very difficult subject of the statistics of cancer. As to its etiology the author concludes by saying that though much light has been thrown recently on certain predisposing factors in the production of cancer, "the essential cause is yet to be discovered." Other chapters deal with the histopathology, with cancer research, the clinical course, the prophylaxis, "cancer cures," and treatment both surgical and non-surgical. One chapter deals with institutions for the care of cancer patients and one with the campaign of education.

The book is of great interest and is well put together. It must have involved an immensity of labour to gather together all the information contained, and we can hardly speak too highly of the way in which the author has carried out the task he set himself.

The Primary Lung Focus of Tuberculosis in Children.

By Dr. ANTON GHON, Professor of Pathological Anatomy at the German University in Prague. Authorised translation by D. BARTY KING, M.A., M.D. Edin., M.R.C.P. Lond., and Assistant Physician to the Royal Hospital for Diseases of the Chest, London. With 72 text illustrations and 1 coloured plate. London: J. and A. Churchill. 1916. Pp. 167. Price 10s. 6d.

IN this book, which here receives an English translation, we have an illuminating investigation into the nature of that isolated lung focus familiar to all those who conduct necropsies on tuberculous infants and children. First noted by Parrot, carefully described by Küss in 1898, and studied on a large material by H. Albrecht in 1909, it here receives its crowning notice at the hands of Professor Anton Ghon. Confining himself to 184 cases of tuberculosis, in which the whole investigation was personally conducted, he found the "primary lung focus" in 170, or 92·4 per cent., but in 14 cases (7·6 per cent.) it was not discovered. Of these 14 cases 5 showed tuberculosis of other organs, and in 2 others which gave a positive tuberculin test no macroscopical tubercle was found at necropsy. In the remaining 7, which were all cases of tuberculosis of chest glands, it remained open to conjecture whether tubercle bacilli had reached the glands through the lung tissue without the production of a lesion, or whether a lung focus really existed but failed to be discovered. In some of Ghon's cases the focus was only found after a search of several hours over many days. *In every case the corresponding lymphatic glands were diseased*, and this fact furnished a key to the location of the focus. The lung focus itself was either caseous, or formed a cavity, or was calcified. In 55 per cent. of the cases the focus was "active," which is not surprising, since most of the cases were infants in the first year of life. In dimensions it was commonly pea-sized, but where cavitation existed was often larger; it was more frequent in the upper lobes and on the right side. Of particular interest is the frequency with which pleurisy of more or less extent was found over the focus—in no less than 95 among 142 cases with a single focus. Finally, by a process of exclusion, Ghon shows the primary lung focus to be in all probability of aerogenous origin.

This work, although of purely pathological scope, presents points of great interest alike to clinician and hygienist. The primary lung focus is a subclinical phenomenon—save, perhaps, for Hamburger's insistence *on the universal occurrence* of cough in infants at the period of tubercle invasion—yet its association with pleurisy brings it directly *into touch* with the experiences of practical medicine. *It must be noted* that Ghon's work disturbs no views as to the spread of tuberculosis at its later and clinical stages. The first stage of tuberculosis for the clinician is the pathologist's second stage—namely, the glandular disease secondary to this lung focus. It is the clinician's second, the pathologist's third stage which is most familiar to the practising physician—namely, the stage at which disease has spread out from the glands again into the lung, a process commonly attributed to a retro-impulsion of lymph. These stages Ghon's work leaves undisturbed. To the *fact* that Ghon's material shows over 95 per cent. infected through the respiratory tract the hygienist may properly object that post-mortem statistics are not applicable to the living, and that living infected children would by no means necessarily show an inhalation tuberculosis in anything like so high a proportion.

Surgical Anaesthesia.

By H. BELLAMY GARDNER, M.R.C.S., L.R.C.P. Lond. With 8 plates and 30 figures. Second edition. London: Baillière, Tindall and Cox. 1916. Pp. 220. Price 7s. 6d.

THIS manual has been much improved in appearance in its second edition. The print is larger and by the increased size of page more material has been included without thickening the book. This chapters dealing with intratracheal insufflation, spinal analgesia, and Crile's system of anoci association have been added, composed mainly of extracts from the writings of those responsible for the introduction of these newer methods, and Mr Gardner has ventured little upon criticism of their efficiency or desirability The chapters upon shock and upon the treatment of emergencies are also, we think, a little meagre, and for the purposes of the student and practitioner these might with advantage have been increased at the expense of the very interesting chapter on the history of anæsthetics This chapter, indeed, is the most complete of all in the book and is likely to remain long of value to anyone compiling a work upon anæsthesia.

Pathological Technique A Practical Manual for Workers in Pathological Histology and Bacteriology, including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods

BY FRANK BURR MALLORY, A M, M D, Associate Professor of Pathology Harvard University Medical School, Pathologist to Boston City Hospital, and JAMES HOMER WRIGHT A.M, M D, S D, Pathologist to the Massachusetts General Hospital, Assistant Professor of Pathology, Harvard University Medical School Sixth edition, revised and enlarged, with 174 illustrations London and Philadelphia W B Saunders Company 1915 Pp 536 Price 13s net

A WORK that has been before the medical public for nearly a score of years can scarcely need the assistance of commendatory notice from the reviewer to ensure a continuance of its success Four years ago[1] we reviewed the fifth edition of this useful work Two years ago the edition being exhausted, it was reprinted as it stood, but now, again revised and again enlarged (by the addition of some 30 pages and a dozen new illustrations), it comes before us for notice once more On previous occasions we have dealt with the book as a whole, and with the exception of the few instances where our own opinion has not coincided with that expressed by the authors we have marked our appreciation of the success with which the authors have carried out their self imposed labours in no uncertain manner On the present occasion it only remains for us to refer to the added matter The most important addition (pp 237-245) outlines the main facts in connexion with the better known pathogenic blastomycetes and hyphomycetes Seven excellent photographs and some semi diagrammatic sketches which are inserted in this section convey a very clear impression of the morphology of Sporotrichum schenckii and the appearance of the cells found in dermatitis coccidioides

The description of the technique for obtaining blood during life for cultivation purposes from cases of suspected bacteræmia has undergone some expansion to include McJunkin's tube, which is figured, but which we venture to believe has few, if any, advantages over an ordinary all glass antitoxin syringe and sterile citrate or oxalate solution, in preventing clotting Bensley's method for the demonstration of mitochondria is given in full, whilst the undoubtedly superior Herxheimer's alcohol acetone solution of scharlach R is now recommended in place of the saturated solution in 70 per cent alcohol in previous editions Important additions are the complement fixation test for gonococcus infections and the similar test for hydatid disease although in the last mentioned the worker is not warned of the fact that not every cyst fluid nor every alcoholic extract of cyst will yield a workable antigen As a final quibble may we suggest that to the British eye "pipet" looks unnatural?

Rural Sanitation in the Tropics

By MALCOLM WATSON, M D C M Glasg, D P H With 56 illustrations London John Murray 1915 Pp 320 Price 12s net

THIS is a most interesting book, and one which inculcates many useful lessons on the subject of rural sanitation in the tropics It contains the personal experiences of the author in the Federated Malay States, along with an account of visits to Panama, British Guiana, and Sumatra, where marked progress had been made in dealing with malaria and other tropical diseases by modern methods The first half of the book describes the sanitary circumstances of the Panama Canal Zone, which the author calls the "Mecca of the modern sanitarian, and the measures taken to eradicate yellow fever and other insect borne diseases in that region The steps taken in the Malay Peninsula to improve health conditions are noted, especially at Klang and Port Swettenham, where successful attempts, among the earliest of the kind, were made under his direction to reduce malaria on the lines formulated by Sir Ronald Ross, to whom the volume is dedicated Description is given of the conditions under which coolies live in the Dutch plantations of Sumatra The question of malaria in Italy, India, the Straits Settlements Ceylon, Hong Kong, and the Philippine Islands is fully discussed In a final chapter the author furnishes an "epilogue" on the place of sanitation in tropical colonisation

Dr Watson was formerly one of the medical officers in the service of the Government of the Federated Malay States, and acquired a considerable reputation as a sound and trustworthy adviser His efforts to ameliorate the health of the coolies on the plantations attracted attention, and he became adviser to an association of leading planters in Malaya on the best means of improving the health of the labourers on their estates As a result of his efforts death and sickness rates were greatly reduced and much useless jungle turned into wealth bearing plantations When in 1911 a malaria advisory board was constituted for the Federated Malay States he was appointed one of its medical members A desire to broaden his views and sense of responsibility for the health and efficiency of the large force of tropical labourers under his charge led him to visit other lands to see what was being done in tropical sanitation on modern lines The results of these travels are presented in his book, which all interested in the suppression of malaria and other tropical diseases should carefully study Dr Watson found the rôle of a sanitarian in the tropics one of deep interest, and the lessons he draws in his book can hardly fail to excite a similar enthusiasm in some of his readers and a desire to go and do likewise

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JOURNALS AND MAGAZINES

The Monthly Bulletin of the International Office of Public Hygiene (Office International d'Hygiène Publique créé à Paris par l'arrangement international du 9 Décembre 1907 Bulletin Mensuel) Paris 195 Boulevard Saint Germain Price 10 francs per annum postage included —This journal is rendered more than usually interesting by its regular consideration of questions made topical by the war The menace to the whole European community created by the unwholesomeness of the battlefields of the trench warfare, and the prevalence of epidemic typhus fever among some of the armies engaged are the two principal topics discussed in recent issues and it is quite clear that these are matters with which no nation can deal single-handed We in this country depend just as much on what our allies, indeed to some extent on what our enemies are doing as on the precautions we ourselves are able to apply, and the international character of such matters is apparent We have no battlefields in England but epidemics connected with the disposal of the killed, with the exposure of bodies lying in places where they cannot be reached for removal and burial, may spread to our shores The *Bulletin* brings to our notice debates in the French Academy of Sciences on the contamination of subsoil waters through the hasty burial of the dead in the nearest convenient spot The December number deals with the whole question of the danger of thus contaminating the water supply of large towns, notably of Paris It has been found necessary to remove some of the dead to more suitable burial grounds, and it is easy to realise that we have here a very serious sanitary problem

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[1] THE LANCET Jan 27th 1912 p 23[illegible]

In regard to typhus it is useful to have a record of what the nations that are situated between us and the epidemic centres are doing The *Bulletin* publishes the text of the new French and Italian laws and regulations, prepared and issued since the grave Serbian epidemic of typhus rendered the application of such rigorous precautions necessary The French and Italian regulations do not trust in the least to the technical knowledge of those who have to see to their practical application Everything is minutely and clearly explained so that a functionary, or be it a simple attendant, would know just what ought to be done The main thing is to kill the lice and to prevent anyone, whether in good health or a patient entering a hospital or any other inhabited place when there are still any vermin on his person clothes, or belongings It may be interesting to note that, though the object in view is identical, the method of procedure varies somewhat The French instructions which were issued by the Minister of the Interior on May 31st, 1915 stipulate that the receiving, examining, and cleansing room should stand apart from any hospital, huts or main building It should be provided with the most powerful light available, should be constantly washed with hot water containing 5 per cent of carbonate of soda and occasionally fumigated by burning 20 grammes of sulphur for every cubic metre of space Naturally the attendants must be protected by overalls tightly fastened round the ankles, wrists and neck Such portions of the skin that still remain exposed must be rubbed with an ointment of petrol, xylol camphor or turpentine, so as to keep the parasites away But the process differs in dealing with the clothes as they are removed from the lice-infected person According to the French regulations, these including boots and hats, should be placed in a metallic box and sprayed with 40 to 50 c c of benzene The lid is then fastened down and after 15 to 20 minutes the lice are either killed or so stupefied as to be inoffensive, and the clothes can then be handled and washed without danger The rules issued by the Italian Minister of the Interior are dated June 24th 1915 and are as carefully explained and elaborate as the French But there are differences in matters of detail Thus we have the suggestion that one or two large newspapers should be placed on the floor and that clothes should be removed gently so as not to shake off the lice But as some are nevertheless likely to fall off the newspapers on which they fall could be rolled up and burnt All clothes that would not be injured by the process are to be at once immersed in boiling water, and the objects placed in a waterproof sack or metallic box and conveyed to the disinfecting store Doubtless all this can be done at Bari Brindisi and other places where fugitives and others coming from the Balkans may land, but it is to be feared that the necessary accommodation may not always be forthcoming However this may be the *Bulletin* does help in making known from the international standpoint what are the difficulties that have to be overcome

Archives of Radiology and Electrotherapy (*Archives of the* [illegible]) [illegible] This journal continues to maintain its [illegible] in spite of the fact that many sources of [illegible] are cut off by the crisis from which the world [illegible] there were contributions from many continental countries but under necessity British writers are rising to the occasion In the number for December 1915, Dr George Ward gives an interesting paper on the value of the electro-cardiograph in the diagnosis of diseases of the heart as a result of his extensive work at the Middlesex Hospital The paper is fully illustrated with a series of tracings which add very materially to the worth of an already valuable and important communication —Dr J M Woodburn Morison's paper on gas in the tissues shows by excellent radiographs how the presence and distribution of gas can be demonstrated in the vicinity of wounds by shell and other missiles used in war Its presence can be shown frequently before being discovered by other methods and the importance of this is obvious to those who have had to deal with such wounds as this war has furnished in prodigious numbers —Professor H Bordier, of Lyons, describes how the alternating current from the main can be best used for the treatment of many of the cases of neuritis and muscular atrophy that are so common in military hospitals He controls the current with what he calls the 'chloroform bottle rheostat," a simple and efficient appliance that can be improvised by anyone and at any time —The number for January, 1916, opens with a paper by Mr Archibald McKendrick on the radiography of normal parts which is evidently meant for beginners —Dr Hugh Walsham and Dr Walker Overend record investigations on the movements of the colon This contribution is of greater importance than may at first sight appear, for it is encumbered with many unfamiliar, and perhaps improvised, terms The following sentence from the authors conclusions will explain our criticism "With regard to the two functional variations from the average progression of the opaque meal, the tachykinetic modification may be due to an increase in the number and the amplitude of the megadiastaltic waves (vago-pelvic hypertonia) and probably associated with a reduction of anastalsis" This is one of the more simple sentences, and such free use of unfamiliar words makes the study of the article unnecessarily tedious —We note a new departure in the institution of an inquiry column which should be of great value in a branch of medical research that is in its early and most busy stages of development This, with sections devoted to reviews and notes and abstracts, makes the journal one of great value to radiologists With regard to the illustrations, they do not appear to be up to the previous standard

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CORNWALL COUNTY ASYLUM —The medical superintendent in his annual report for 1915 states that on Jan 1st there were 1039 patients (496 males and 543 females) in the institution During the year 49 males and 59 females had been discharged and 52 males and 77 females had died Of the 108 patients discharged, 71 were recovered, 31 relieved, and 6 not improved The recovery rate was 37 15

LITERARY INTELLIGENCE —Messrs H K Lewis and Co Limited announce the following books for early publication —'Localisation by Röntgen Rays and Stereoscopy,' by Sir James Mackenzie Davidson, illustrated with stereoscopic and other pictures "The Pathology of Tumours,' by Dr E H Kettle With 126 illustrations from original drawings and photographic material A new volume of essays by Dr T B Scott (author of 'The Road to a Healthy Old Age) entitled 'Modern Medicine and Some Modern Remedies" to which Sir Lauder Brunton has contributed a preface 'Notes on Galvanism and Faradism, by Dr Magill with 66 illustrations, intended for masseuses and those employed in the practical administration of electrical treatment 'The Adolescent Period Its Features and Management,' by Dr Louis Starr A new edition (the fourth) of 'Mentally Deficient Children,' by Dr G E Shuttleworth and Dr W A Potts, this has been revised and in part rewritten while the illustrations have been increased A new (seventh) edition of Gould's well known 'Pocket Medical Dictionary containing an additional 1000 words (35 000) is also just ready A new and revised edition of Binnie's Operative Surgery,' will be published it is expected in March A small book by Dr C Russ on 'A New Treatment for Gonorrhoea' is also nearly ready A thoroughly revised and greatly enlarged edition of Dr Herbert Tilley's Diseases of the Nose and Throat" is in the press

A MONTHLY RECORD OF ATMOSPHERIC POLLUTION

COMMITTEE FOR THE INVESTIGATION OF ATMOSPHERIC POLLUTION

Summary of Reports for Month ending August 31st, 1915

Place	Rainfall in millimetres	Metric tons of deposit per square kilometre during month								
		Insoluble matter			Soluble matter		Total solids.	Included in soluble matter		
		Tar	Carbonaceous other than tar	Ash	Loss on ignition	Ash.		Sulphate as (SO_4)	Chlorine (Cl)	Ammonia (NH_3)
ENGLAND—										
Birmingham Central[1]	51	—	—	—	—	—	—	—	—	—
Aston	49	0·05	1·47	5·68	0·90	3·40	11·50	1·80	0·20	0·03
S W	35	0·02	0·61	1·17	0·43	1·60	3·70	0·80	0·10	0·02
Bolton	139	0·03	3·45	3·11	4·44	7·22	18·25	·73	1·11	0·06
Exeter	48	0·02	1·14	2·62	1·34	1·90	7·02	0·67	0·25	0·02
Kingston upon Hull	46	0·14	[2] 2·57	2·97	1·48	3·34	10·50	1·89	0·21	[illegible]
Leicester	49	0·04	2·24	3·16	2·16	1·57	9·18	1·35	0·27	0·09
Liverpool	139	0·19	3·10	6·23	0·27	6·94	16·73	4·62	0·59	[illegible]
London—										
Meteorological Office	85	0·05	0·70	3·78	1·71	4·43	10·67	1·79	0·60	Nil
Embankment Gardens	78	0·18	3·43	6·22	1·56	4·37	15·76	2·44	3·06	0·15
Finsbury Park	42	0·15	1·47	5·58	0·66	2·75	10·61	1·34	0·24	0·01
Ravenscourt Park	91	0·04	1·01	2·23	1·29	2·33	6·90	1·66	0·32	0·03
Southwark Park	70	0·21	2·73	5·76	0·84	4·76	14·30	2· 1	0·45	0·10
Wandsworth Common	40	0·05	0·43	1·65	0·89	1·61	4·63	1·14	1·23	0·43
Victoria Park	68	0·18	3·08	4·87	1·49	3·24	12·66	1·67	0·45	0·09
Golden Lane	64	0·05	3·18	5·12	1·55	2·83	12·74	1·33	0·43	0·11
Manchester—										
Ancoats Hospital	—	—	—	—	—	—	—	—	—	—
Bowdon	106	0·01	0·47	0·92	2·32	30·43	34·15	2·04	0·43	0·03
Cheadle	75	0·06	1·39	1·82	0·71	2·61	6·59	2·04	0·35	0·06
Davyhulme	91	0·02	0·91	2·87	1·38	6·12	11·30	3·42	0·40	0·05
Fallowfield	74	0·63	1·02	24·08	6·50	42·22	74·45	25·87	0·29	0·02
Moss-side	62	0·16	1·38	4·44	0·60	4·69	11·27	3·23	0·53	0·03
Philips Park	82	0·08	2·36	9·93	1·18	7·38	20·93	2·11	0·59	0·04
Queen's Park	104	0·09	1·39	5·64	1·50	7·15	15·77	4·9	0·63	0·06
School of Technology	73	0·13	2·76	7·80	1·40	4·58	16·67	3·35	0·65	0·03
Whitefield[3]	—	—	—	—	—	—	—	—	—	—
Newcastle-on Tyne[4]	—	—	—	—	—	—	—	—	—	—
Oldham	119	0·14	2·69	3·95	0·95	6·21	13·94	2·56	0·63	0·12
York.	34	0·06	0·96	2·26	0·87	1·08	5·24	0·82	0·17	0·05
SCOTLAND—										
Coatbridge	64	0·13	2·44	6·46	1·20	2·29	12·52	1·64	0·30	0·10
Greenock	48	0·03	3·02	5·41	1·13	1·83	11·42	1·19	0·09	0·07
Leith	119	0·06	1·25	3·66	4·30	4·30	13·57	1·62	0·31	[illegible]

[1] Gauge tampered with results unreliable [2] *Building operations in vicinity* results vitiated [3] No returns sent in

[4] *No returns* gauge removed temporarily

"Tar" *includes all matter insoluble in water but soluble in CS_2* "Carbonaceous" includes all combustible *matter* insoluble in water and in CS_2 Insoluble ash includes all earthy matter, fuel ash &c One *metric ton per sq kilometre is equivalent to: (a)* Approx 9lb per acre (b) 2·56 English tons per sq mile *(c) one gramme per sq metre (d) 1/1000 millimetre of rainfall*

The public health authorities concerned in the supervision of these examinations were as follows Dr J Robertson Medical Officer of Health of Birmingham Dr J E Gould Medical Officer of Health of Bolton Mr H Lloyd Parry Town Clerk Exeter Mr A R Tankard Public Analyst, Kingston upon Hull C K. Millard D Sc Leicester Dr E W Hope Medical Officer of Health of Liverpool The Director of THE LANCET Laboratory Meteorological Office London Mr J Ollis Chief Officer Public Control Department London County Council London Dr W J Howarth Medical Officer of Health of London Mr W Osborne Thorpe Engineer Urban District Council Malvern Mr J Warrington *Secretary Air Pollution Advisory Board* Manchester Dr J B Wilkinson *Medical Officer of Health* of Oldham *Dr H Kerr Medical Officer of Health of Newcastle-on Tyne* Professor W P Wynne The University Sheffield *Dr E M Smith Medical Officer of Health of York,* Mr A G *Dutch Sanitary Inspector Coatbridge* Mr J Devine *Sanitary Inspector Greenock* Mr Thomas Bishop Sanitary Inspector Leith and Mr W W *Kelso Sanitary Inspector Paisley*

The analytical work involved in these returns was undertaken respectively by J F Liverseege F I C Birmingham; Harry Hurst B.Sc F I C Bolton F Southerden B Sc F I C Exeter A. R Tankard F I C Kingston upon Hull *S F Burford Leicester* W H Roberts M Sc F I C Liverpool S A. Vasey F I C Director THE LANCET Laboratory (London Meteorological Office collections) *J H Coste F I C* (Embankment Gardens Finsbury Park, Ravenscourt Park Southwark Park Wandsworth Common *Victoria Park collections) London;* I L Teed D Sc Golden lane London E C C C Duncan F I C Malvern E Knecht *Ph.D* M Sc. *Manchester collections* J T Dunn D Sc Newcastle-on Tyne Samuel Urmson, Oldham *Professor W P Wynne Sheffield collections S H Davies* M Sc York Messrs R. R Tatlock and Thomson Coatbridge J W Biggart, F I.C., Greenock A. Scott Dodd *B Sc F I C* Leith and Paisley

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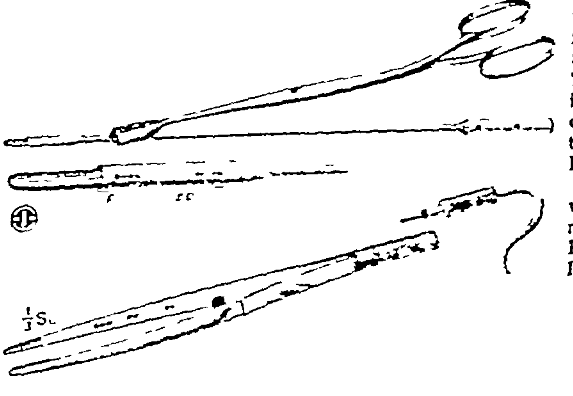
New Inventions.

THE TELEPHONE PROBE

IN *February 1915, I described* at a meeting of the Medical Society of London a probe and a pair of spring *forceps* which would give an audible signal when they came in contact with metallic fragments in a wound *I have since had some opportunities of perfecting these* instruments When the probe meets a metallic foreign body an unmistakable buzz takes place due to a short circuit *Unlike the telephone probe* this signal is continuous so long as the probe is in contact with the foreign body The telephone probe merely gives warning on making and breaking contact with a metallic object. A specially devised pair of bullet forceps can be passed down the probe, using the latter as a guide, and will grasp any foreign body with which the probe is *in contact* I believe, however that the spring forceps *are proving to* be the more valuable inasmuch as they act as probe and forceps *combined* The blades are prevented from completely closing by a *small stop* When the blades come in contact with the metallic foreign body the signal is given, then if the foreign body is successfully grasped by the forceps the signal is continuous These forceps are proving invaluable for small fragments of shell such as are continually met with in military hospitals



The probe and forceps which are easily sterilisable are made by Messrs Down Brothers St Thomas's street London S E

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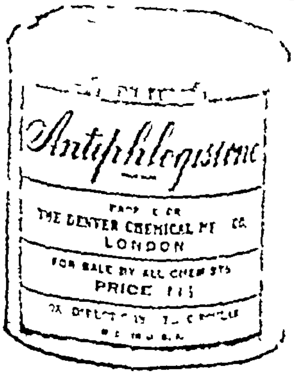
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THE LANCET.

LONDON SATURDAY, FEBRUARY 19, 1916

Medical Men and Civilian Needs

WE have laid stress week after week upon the absolute need that the navy and army should be supplied with medical men promptly and freely, but we have never closed our eyes to the wants of the civilian population In certain circumstances we have stated that the claims of the fighting forces must be regarded as paramount, but it is, of course, perfectly clear that the well being of both the navy and the army is in great measure dependent upon the good health of the population at home from whom the sailors and soldiers receive the supply of material necessary for the carrying on of the war, and to whom they must look for all the arrangements outside the actual fighting Exactly where civilian interests, from the medical point of view, must be subordinated either to supposed military demands or to efforts towards economy in public affairs is, however a very difficult point to decide At a recent meeting of the Worcestershire Insurance Committee, the Committee learned with mixed feelings that one of their medical officers proposed to join the Royal Army Medical Corps, hoping to obtain a substitute to discharge his medical duties The Committee, uncertain what their position would be in regard to the substitute, communicated with the Insurance Commissioners, and received a reply which may have puzzled them They were told that there was at the present moment an ample supply of medical men to meet the needs of the civil population, only the supply was badly distributed The statement is perfectly true, but, unfortunately, its contradiction is implied in the difficulty admitted by the reservation A man is potentially, but not at all conveniently rich who has a cheque which he cannot cash and while the country may still be said to possess a fair quantity of medical men, a quantity from which the demands of the services can be freely met it is quite impossible to mobilise the men in such a way as to get full value from them A system under which medical men could migrate from places where they are in excess to places where they are in a deficiency would be ideal and it is towards some such plan that it will prove necessary to turn if the difficulties of medical service grow more acute but the simple question of cost makes such a solution of the problem one which can only be applied with great foresight and with sound pecuniary backing

Before the needs in any large way of one locality can be met by the immigration of medical men from another locality it is necessary that there should be [illegible] [illegible] [illegible] to the employment of the civilian doctor The public is only beginning to understand what this means, and to appreciate the troubles that may arise in Insurance Committees if the panel doctor departs abruptly from the sphere of his duties Very few of the panel practitioners, as far as we know, have actually left their practices without attempting to find substitutes, but over the substitutes the Committees possess only a vicarious authority, and it is natural that the Insurance Commissioners should watch anxiously the depletion of their medical staff In one district of England the Education Committee have proposed to drop for the duration of the war the work of medical inspection, though continuing dental treatment The Board of Education did not approve of the proposal, although it implied economy of medical labour If the Board of Education had viewed the proposal differently, and such an example had been followed in any large sort, the freeing of a certain number of medical men suited to take commissions in the Royal Army Medical Corps would have followed, but the educational authorities were not prepared to acquiesce in any serious and systematic curtailing of the medical activities specially connected with their work We cannot help sympathising with the attitude of the Board of Education For this is a time when the physique of the young should be jealously guarded and when the largest possible proportion of our youth should be placed in a position to benefit fully by the national provision for their education For, indeed, many of our failures in the conduct of this war have been due to our standards of education and to the want of logical thinking The action taken by the Education Committee in question ended in a compromise, for it was resolved to drop medical inspection of the intermediate group between the entrants and leavers, and to make the entrants the subjects of a general survey from which deductions might be made in respect of the conditions requiring immediate remedy The Committee openly resented the attitude of the Board of Education towards their attempts at economy and this is not surprising, but we can well see that the Board cannot allow an important section of the work done under its ægis to be suddenly suspended without, at any rate, taking pains to ascertain whether an alternative course is open

The Local Government Board is compelled equally with the National Insurance Commissioners and the Board of Education to watch in the public interests lest the health of the country should suffer from the scarcity of medical men Outbreaks of measles have been reported from many places recently At the end of January there were a dozen schools at least closed at Nottingham, which, in common with other large centres in the Midlands has been visited by an epidemic of this troublesome and dangerous disease during the last months At Bristol the medical officer has presented a special report showing that during the first three weeks of the year the average weekly notifications of measles had been 351, and he included in his report a keen criticism of the procedure of notification in regard to measles, finding it to impose upon the community an expensive obligation of little value at a time when economy is imperative Exactly the same attitude has been taken by the Health Committee of the Portsmouth Town Council At Melton Mowbray a sharp little epidemic of measles has been reported, and though it has now abated it is quite clear that from these localities medical men cannot be easily spared But the Board of Education, like the Local Government Board and the National Health Commission, will assuredly have to go short of medical assistance to the extent which may be demanded by the needs of the navy or army It is the duty of the public, recognising this, to take every opportunity of being sparing of the time and work of medical men, so that those who remain in civilian employ may be able to discharge their increased duties with satisfaction to themselves and their employers

While we are very anxious to see the demands of the navy and army met with promptitude by the medical profession, there can be no doubt that the position of those who accept commissions will in some circumstances be a distinctly precarious one To some of our colleagues it must appear that the sacrifice that they are asked to make when joining the Royal Army Medical Corps, is out of all proportion great Medical practitioners in large cities and medical centres often incur heavy responsibilities which are justified by the solid and increasing success which reaches them at the prime of life It is no wonder that they should regard sudden service with the Royal Army Medical Corps as a form of bankruptcy Their pay may meet but a fraction of the expenses which they will be compelled to leave behind them as still current, while the substantial position which justified them in their large commitments will be jeopardised by their absence It is only natural that medical men in this position, keenly anxious though they be to help their country in the war, should ask with persistence the question whether more civilian medical men are required, and whether the Central Medical War Committee is justified in using the terms of urgency employed in its public communications The situation of these medical men is only too well recognised by the Central Medical War Committee, who rely on information from the War Office to the effect that more civilian medical men, and in large quantity, must be recruited The Committee will certainly take such steps as they can to mitigate the circumstances in which a large number of general practitioners are finding themselves, and their all round familiarity with a many sided problem should enable them to be very helpful in cases of hardship If the medical profession had been mobilised as a whole in the first stages of the war, with a view to using the time and talents of each and all of us to the best advantage a good many of the existing hardships would not have arisen But this step was not taken, and it is difficult to blame the military authorities for not having foreseen the necessity or the prudence of a step whose advantages escaped the attention of the doctors themselves We think it is late in the day to attempt this mobilisation now, and in face of the existing situation the scheme of enrolment promoted by the Central Medical War Committee affords the best opportunity by which medical men of military age can obtain fair treatment But its fairness is proportional to its universal adoption

A New Commentary on Harvey

IN common with all writers of the first rank HARVEY is interpreted aright only by those who bring to their studies fruitful knowledge of the conditions under which his work was done To be successful a commentator must be able, as far as possible, to reach the standpoint of his author, and this may not be easy in the absence of full data Thus a new RABELAIS lives to day by the researches of the Société des Études Rabelaisiennes—his environment and past blend to make a picture that it was not possible to paint 25 years ago Few men have been more carefully studied than HARVEY For 250 years orators of the Royal College of Physicians of London have done justice to various aspects of his life, and seemed to have exhausted in a somewhat monotonous manner the lessons of his work It appeared impossible to present anything new about him or to colour anything old with new tints We were wrong in this belief In a monograph of under 250 pages entitled "Harvey's Views on the Use of the Circulation of the Blood the late Professor JOHN G CURTIS, of Columbia College has, in the words of his editor FREDERIC S LEE "presented a more profound study of HARVEY'S ideas and comparison of them with the more important of HARVEY'S predecessors than has heretofore appeared —a strong statement fully borne out by the substance of the book Twice before have Americans made notable contributions to Harveian literature J REDMAN COXE in 1834 wrote a learned monograph against HARVEY'S claims while in by far the best story of the circulation of the blood JOHN C DALTON effectually met every possible argument against the priority of the great Englishman's demonstration A pupil and successor of DALTON in the chair of physiology at the College of Physicians and Surgeons affiliated to Columbia University CURTIS was known to be one of the most learned men in the profession well versed in ARISTOTLE and in GALEN, and delighting in the works of the fathers of physiology There was about him the aloofness of the scholar and his students and colleagues were apt to criticise the reticence of his learning This little volume is their answer Nothing more illustrative of the very best scholarship has ever come from the profession in America

The key to HARVEY'S position CURTIS finds in a study of the great master ARISTOTLE. PAYNE in his Harveian Oration suggested that "the relations of HARVEY to ARISTOTLE would be an interesting study." For more than 2000 years the body had been held to feed itself tranquilly out of the vessels in a way fitly expressed by the old simile of irrigation ditches in a garden—a simile which ARISTOTLE and GALEN borrowed from PLATO. The very first criticism HARVEY had to meet from his opponents was that the phenomenon which he had postulated would serve no purpose. The motion he had proven was so swift and the quantity passing through the heart so large that, as he confessed, it seemed a much larger quantity than would suffice for the nutrition of the body. That the new view clarified the old doctrine of the absorption of food was clear, but HARVEY failed to get beyond ARISTOTLE and GALEN in the relation of the circulation to respiration, which he regarded as a process of cooling and ventilation. In his remarkable demonstration SERVETUS, among other changes, had noted the change in the colour of the blood after passing through the lungs, and suggested that by respiration the blood was freed of fuliginous matters, but it remained for JOHN MAYOW, already an undergraduate at Oxford before HARVEY'S death, to grasp the true significance of the function. By the straining of the blood through the lungs the blood became florid and thinner, but HARVEY stumbled over the question of the absorption of air or spirits into it, though 19 centuries previously his great master, speaking of the channels from the heart, said "It is by contact they receive the breath and transmit it to the heart." CURTIS puts very clearly the relation of REALDUS COLUMBUS to the much discussed question of the discovery of the circulation. This is important in view of the claims of our Italian colleagues which are set forth ably in LUCIANI'S Text book of Physiology, now so popular among students in its English dress. LUCIANI indicates how erroneous it is "to speak of the pulmonary transit as COLUMBUS had set it forth as though COLUMBUS were in some sort a sharer in the discovery of the circulation. Those who so speak fail to note the difference between blood and *the* blood." Although COLUMBUS girded at GALEN and corrected him, COLUMBUS'S pulmonary transit of a fraction of the blood by curing [illegible] than one defect of the Galenic doctrine strengthened the erroneous Galenic physiology of [illegible] movement. Of these larger features [illegible] was not only no [illegible] but remain[illegible] adherent. His doctrine certainly [illegible] for HARVEY'S but in no more [illegible] did GALEN'S doctrine [illegible] in the arteries.

[illegible]

and difficulty was found in convincing anatomists that the circulation had not a hepatic but a cardiac origin. VESAL in 1539, in the famous "Tabulæ Sex" has a plate of the liver giving origin to the veins. CURTIS shows how admirably HARVEY restored the sovereignty of the heart, as maintained by ARISTOTLE. "The heart is the governor everywhere, like the chief in a commonwealth with whom is lodged the first and highest authority." Those who opposed HARVEY longest and most bitterly were the Galenists whose system he attacked and shattered. He even apologises for his old friend and opponent RIOLAN, saying "it was proper that the dean of the College of Paris should keep the medicine of GALEN in repair."

Not without some doubts did HARVEY maintain the views of his master in the primacy of the heart. Unfortunately, we have only a part of his life's work, but in his old age his friends at the College induced him to publish the "De Generatione Animalium," in which we find that years of careful research had taken him beyond the point of view of his master, and he advocates the primacy of the blood. "The blood is made before the leaping point is formed, and the blood is endowed with vital heat before it is set in motion by pulsation. As the primal abode of the [illegible] the blood is responsible for the heart beat [illegible] ing into the ventricles from the [illegible] lates their walls to contract." These [illegible] primacy of the blood and the [illegible] best illustrate the good use [illegible] made of a first-hand study of [illegible] all HARVEY'S great [illegible] of the direction of the [illegible] knew that the main [illegible] forcible emptying of the [illegible] He recognised [illegible] many points [illegible] of MALPIGHI [illegible] Students of [illegible] which [illegible] [illegible]

[illegible]

of the year the average weekly notifications of measles had been 351, and he included in his report a keen criticism of the procedure of notification in regard to measles, finding it to impose upon the community an expensive obligation of little value at a time when economy is imperative Exactly the same attitude has been taken by the Health Committee of the Portsmouth Town Council At Melton Mowbray a sharp little epidemic of measles has been reported, and though it has now abated it is quite clear that from these localities medical men cannot be easily spared But the Board of Education, like the Local Government Board and the National Health Commission, will assuredly have to go short of medical assistance to the extent which may be demanded by the needs of the navy or army It is the duty of the public, recognising this, to take every opportunity of being sparing of the time and work of medical men, so that those who remain in civilian employ may be able to discharge their increased duties with satisfaction to themselves and their employers

While we are very anxious to see the demands of the navy and army met with promptitude by the medical profession, there can be no doubt that the position of those who accept commissions will in some circumstances be a distinctly precarious one To some of our colleagues it must appear that the sacrifice that they are asked to make when joining the Royal Army Medical Corps, is out of all proportion great Medical practitioners in large cities and medical centres often incur heavy responsibilities which are justified by the solid and increasing success which reaches them at the prime of life It is no wonder that they should regard sudden service with the Royal Army Medical Corps as a form of bankruptcy Their pay may meet but a fraction of the expenses which they will be compelled to leave behind them as still current, while the substantial position which justified them in their large commitments will be jeopardised by their absence It is only natural that medical men in this position, keenly anxious though they be to help their country in the war, should ask with persistence the question whether more civilian medical men are required, and whether the Central Medical War Committee is justified in using the terms of urgency employed in its public communications The situation of these medical men is only too well recognised by the Central Medical War Committee, who rely on information from the War Office to the effect that more civilian medical men, and in large quantity, must be recruited The Committee will certainly take such steps as they can to mitigate the circumstances in which a large number of general practitioners are finding themselves, and their all round familiarity with a many sided problem should enable them to be very helpful in cases of hardship If the medical profession had been mobilised as a whole in the first stages of the war, with a view to using the time and talents of each and all of us to the best advantage a good many of the existing hardships would not have arisen But this step was not taken and it is difficult to blame the military authorities for not having foreseen the necessity or the prudence of a step whose advantages escaped the attention of the doctors themselves We think it is late in the day to attempt this mobilisation now, and in face of the existing situation the scheme of enrolment promoted by the Central Medical War Committee affords the best opportunity by which medical men of military age can obtain fair treatment But its fairness is proportional to its universal adoption

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A SAFETY X RAY TUBE

In the *Scientific American* Supplement of Dec 18th, 1915, is a description of a novel form of X ray tube, designed by Professor Dr L Zehnder, of Zürich, the object of which is to allow no X rays to escape except through a small window opposite the focal point of the anticathode The body of the tube is a length of metal, on one end of which is mounted the cathode, from which it is disconnected electrically by an elaborate system of insulation To the opposite end is fixed the anticathode, which is in metallic contact with the body of the tube, and the latter is grounded in use The anticathode can be raised or lowered by suitable screw devices and inclined relatively to the longitudinal axis of the tube but it is not stated how the vacuum of the tube is maintained under these conditions The window is made of glass or aluminium, and can be controlled by diaphragms or fitted with filters as may be required There is also fitted a regeneration chamber for regulation of the vacuum If this construction proves practicable it will be a great boon to radiologists by virtue of the absence of the wide field of active radiation that is characteristic of tubes in ordinary use, though there is danger from the secondary radiations of the wall of the tube though very much less than from the direct rays It is stated that this tube makes it possible to obtain very hard rays, such as are now only obtainable from radium, that it is safe to handle at all times easy to carry off the heat produced, and by the adjusting anticathode the focus can be altered to suit all radiological purposes Only by further experience can the validity of these claims be established the departure from standard design is a very great one and we look forward with interest to some further details of actual work

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A MEDICAL QUADRUPLE ENTENTE

In a letter addressed by Dr G Bardet director of the laboratory of the École Pratique des Hautes Études in Paris to Sir Dyce Duckworth upon which we have been invited to comment our French colleague laments the invasion of France by medical surgical and laboratory products of German origin and the almost complete absence of instruments and [illegible] of English and Italian origin Dr Bardet [illegible] this unsatisfactory state of affairs in part to the [illegible] of English manufacturers and [illegible] although in [illegible] every [illegible] catalogue of [illegible] opticians [illegible] English [illegible] announces [illegible] committee of French savants in order to make an *amicale propagande* among the allied nations The first step in this direction has now been taken and a committee formed from the editorial staff of the medical and scientific press of France, whose names we give as an indication of the influential nature of the movement

M Arnozan, *Journal de Médecine de Bordeaux*, M Bourquelot, *Journal de Pharmacie et de Chimie*, M Gilbert, *Paris Médical*, M Landouzy, *Presse Médicale*, M Langlois, *Revue Générale des Sciences*, M Moureu *Revue Scientifique*, M Ed Perrier *Association des Écrivains Scientifiques* M Quénu, *Revue de Chirurgie*, M Albert Robin, *Syndicat de la Presse* M Bardet, *Bulletin de Thérapeutique*, M Fiessinger, *Journal des Praticiens*, M Janicot *Bulletin Médical*, M Lyonet *Lyon Médical*

An extensive programme has now been drawn up by this committee, the *Comité médical, national et inter Alliés* which is to educate the buyer to practise a voluntary abstention from products and apparatus of German origin, at the same time indicating a source of supply among the allied nations The committee assumes that the supply of these products will follow upon the demand for them Sir Dyce Duckworth, to whom we are indebted for communications with Dr Bardet, considers that the views so clearly set forth by Dr Bardet are already taking root in this country, the present war being a call to all of us to develop our various industries in a worthy manner

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A REPORT has just been issued by the Medical Research Committee, which has been made by the Special Advisory Committee of that body, upon the bacteriological studies of cerebro spinal fever carried out during the epidemic of 1915 The advisory committee consists of Professor F W Andrewes, F R S, Captain, R A M C (T) Professor William Bulloch, F R S, and Professor R T Hewlett, and their report gives a coördinated view of the experiences gained in different localities throughout the country during the epidemic It will be a valuable guide both for future research and for the practical control of cerebro spinal fever among the military forces

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We regret to announce the death, which occurred in Edinburgh on Tuesday last of Sir William Turner the famous anatomist, Principal and Vice Chancellor of the University of Edinburgh, and formerly President of the General Medical Council

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND

The Week's Subscriptions

The subscriptions to the Belgian Doctors and Pharmacists' Relief Fund received during the week have been as follows —

	£ s d		£ s d
Dr R D H Carpenter [illegible]	1 1 0	Dr [illegible]	1 0 [illegible]
B M A Bristol [illegible] Members [illegible] per Dr [illegible]		Dr Irving	1 0 [illegible]
D D [illegible]	[illegible]	Dr [illegible]	1 0 0
		Dr [illegible]	1 0 [illegible]
		Dr [illegible]	1 0 0
		Dr [illegible]	1 0 0
		Dr [illegible]	1 0 0
		Dr Campbell	1 0 0
		Dr [illegible]	1 [illegible]

Subscriptions to the Fund should be sent to the treasurer of the Fund, Dr H A Des Voeux at [illegible] Buckingham gate London S W and should be made payable to the Belgian Doctors and Pharmacists' Relief Fund crossed Lloyds Bank Limited

3,500,000, while the white had fallen to nearly normal and the abnormal form of red corpuscles had almost disappeared After three months she was so well that she was discharged, but the spleen remained enlarged A child, aged 4 years, had leukæmia The lymphatic glands all over the body were enlarged The liver and spleen were much enlarged, the latter extending 7½ inches below the ribs Blood examination showed red corpuscles 2,000,000, white 158,400, anisocytosis, and poikilocytosis There was pneumonia of practically the whole left lung The child was placed on the roof and the white corpuscles dropped in 24 hours to 15,000 The general appearance improved and colour returned to the cheeks The pneumonia cleared up, and after a fortnight the lymphatic glands had diminished in size and the spleen extended only 4½ inches below the ribs, the number of leucocytes was normal, and the blood was improved in other respects The child was then put into a ward, which was well ventilated After four days the lymphatic glands and spleen were as large as before and the leucocytes numbered 90,000 The child was, therefore, put back on the roof and improved again The value of open air treatment of pneumonia is, of course, now well recognised, but these cases of blood disorders are obviously too few for general conclusions, though they are very suggestive

THE FUNCTION OF THE PITUITARY BODY

TWO of the Hunterian lectures last week, delivered at the Royal College of Surgeons of England, dealt with the surgery of the pituitary fossa Professor V Zachary Cope discussed the normal and pathological anatomy and the surgical approach in man To this subject we hope to return later Professor W Blair Bell dealt with experimental operations on the pituitary body in animals, basing his conclusions on his own extensive experimental work The first extirpation of the pituitary body was performed in 1886 by Sir Victor Horsley, and the matter was carried to a further stage by Paulesco and Harvey Cushing The results reached by the two latter experimenters were briefly these Removal of the whole of the pituitary body or of its anterior lobe causes death in a short time Partial removal of the anterior lobe produces the condition known as dystrophia adiposo genitalis Removal of the posterior lobe gives rise to no symptoms Professor Blair Bell's experience covered 27 operations on dogs of which only one died as the result of the operative interference contrasting favourably in this respect with preceding instances A detailed description of the surgical method is to appear in the *Quarterly Journal of Experimental Physiology*, and need not detain us here We need only say that with the technique adopted the operation only occupied about half an hour, and in every case the animal recovered sufficiently in two hours to drink milk and was able to eat meat on the following day The control animals in which, with the same operative interference the pituitary body was not removed, lived for many months Professor Blair Bell's conclusions confirmed those of his predecessors with one very important exception He also finds that complete removal of the whole body or of the anterior lobe is always fatal The dog recovers from the operation, but remains in a state of somnolence from which it can be roused for about 24 hours, when breathing gradually becomes slower and stops Incomplete removal of the anterior lobe insufficient to give rise to fatal coma results in a condition of genital atrophy The Graafian follicles die, the interstitial cells of the ovary disappear, the muscle of the uterus atrophies and the glands drop out Paulesco and Cushing described the same condition without illustrating it Professor Blair Bell demonstrated on the screen comparative sections of uterus and ovary before and after the removal, the before specimens having been obtained from the same animal at a preliminary operation So far he was in agreement with others Cushing, however went on to state that partial removal of the anterior lobe gave rise to the condition of dystrophia Professor Blair Bell had never seen this result from any removal of pituitary substance, but observed it as a constant sequel of complete separation of the pituitary body from the brain by crushing or section One animal increased 66 per cent in weight in 50 days, and its uterus and ovary were found completely atrophied while the thyroid vesicles were distended with colloid Finally, removal of the posterior lobe produced no symptoms whatsoever The health of the animal remained unimpaired, the ovary and uterus were normal, and continued to develop in the young animal A further series of experiments illustrated the effect of the pressure of a tumour on the pituitary body The tumour in this case was a ball of wax impregnated with barium salt so as to be visible on the X ray plate Where this local pressure is successfully applied the animal wastes, becomes irritable, and develops glycosuria without other evidence of pressure on the brain Cushing recognised a definite type of cachexia but Professor Blair Bell found a condition typical in general of a dog suffering from a wasting disease In the light of his own observations the lecturer had been led to regard the function of the pituitary body as that of the organ as a whole, the secretory material comes from the intermediary cells which are themselves derived from the anterior lobe and these cells and their products invade the posterior lobe, or pars nervosa, when the gland is active The lecture was lucid in itself and copiously illustrated by convincing lantern slides

THE FIXATION OF SALVARSAN AND NEOSALVARSAN BY THE BLOOD AFTER INTRAVENOUS INJECTION

AN interesting paper bearing on the fate of salvarsan and neosalvarsan in the organism when injected intravenously appears in the December number of the *Bio chemical Journal* The author Mr William John Young, of the Australian Institute of Tropical Medicine, Townsville refers to the experiments of Breinl and Nierenstein, who found that when serum was shaken with atoxyl and the proteins subsequently precipitated from the mixture with tannic acid, the precipitate invariably contained arsenic which could not be removed by washing In each case in which arsenic was present in the tannic acid precipitate the atoxyl serum' could not be freed from arsenic by continued dialysis The experiments described by Mr Young were performed to ascertain whether similar combinations could be obtained with salvarsan and neosalvarsan The results are of interest as throwing some light on the pharmacology of these organic combinations of arsenic It was shown that after injections of salvarsan and neosalvarsan attention had been called to the fact that no definition of the expression personal knowledge was attempted upon the document containing the words Possibly this omission will be supplied in future but if not the case of Dr Ma sie will have to be cited as a precedent by those who may be asked to support applications of a similar kind. Passports at the present time are matters of serious importance and no doubt our experience gained during this period of war will cause us to regard them in this way It may not be easy to give a general definition of "personal knowledge" which will fit all the cases in which a person is asked to give a certificate as to the character of another but as a practical rule we should say that personal knowledge in a document of any solemnity or importance implies more than the mere fact of an interview It must be taken to imply a knowledge gained independently of the occasion for which the document is made out and signed After all, no prudent person would speak of his "personal knowledge" of a man whom he was recommending for a post of trust merely upon the strength of an introduction by a relative and of the favourable impression produced by one interview A prudent person would explain the limitations of his knowledge but in a formal document there is not usually any opportunity for such explanation

A Medical Man's Action against a Friendly Society

At the Southampton county court his honour Judge Gye recently tried an action brought by Mr A H Burnett to recover £18 6s 6d the defendants being the trustees of the Juvenile Oddfellows Society The plaintiff's case was that in accordance with an arrangement made by certain of the medical men of the district he had attended members of the society according to a fixed scale of fees sending his accounts direct to the patients The society undertook responsibility for the amounts owing, and the secretary was informed by the plaintiff of his willingness to give medical attendance to those asking for it on the terms agreed Some of the accounts were however not paid when sent in the defendants alleging that they were not liable when the fees were in respect of patients whose subscriptions were in arrear and contending that it was for the medical man who was called in to ascertain that the patient was entitled to medical attendance His honour in the course of the trial intimated that in his opinion it was for the society to inform the medical men when its members subscriptions were in arrear, and evidence was given to the effect that when the medical men originally met the representatives of the society and entered into an arrangement with them it was intimated on behalf of the society in reply to a question upon the subject that in the case of arrears for no more than three months no notice of arrears would be taken and the fees would be paid His honour Judge Gye in giving judgment for the plaintiff expressed the opinion that the action ought not to have been defended and emphasised his disapproval by granting costs on a higher scale than counsel had asked

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

The following appointments are notified — Fleet Surgeons W J Colborne to R M A Barracks Eastney J Hill C V O to the [illegible] *Dido* and for general staff duties [illegible] to R M Infirmary Deal and [illegible] Sutton to [illegible] hospital ship [illegible] Surgeon A J Panter to the [illegible] Surgeons (Temporary) H S Jefferies to the [illegible] Hospital [illegible] J A Prender[illegible] to the [illegible] for [illegible] Hospital and [illegible] for Chatham [illegible]

ARMY MEDICAL SERVICE

[illegible] Lieutenant Colonel [illegible] temporary Colonel from Sept [illegible] 1915 [illegible]

ROYAL ARMY MEDICAL CORPS

[illegible] temporary Lieutenant-Colonel [illegible]

[illegible] Captain [illegible] to be temporary [illegible]

[illegible]

Temporary Captains C G Whorlow and F A Cooke relinquish their commissions

Temporary Captain F W Mackenzie is placed temporarily on retired pay on account of ill health

The undermentioned temporary Lieutenants to be temporary Captains —S T Davies, G C Adeney T P Devlin (late Captain, Royal Field Artillery Territorial Force) F Barnes G L Leggat J M Barkley, S T Ormond P Marshall T Stephenson R M Boyd, E Kidd J M Pishworth, W R S Watkins T J L Thompson, C H Nash F D Walker R H Hutchinson T L Llewellyn B C Ewens, D Forde D F Curran C P V MacCormack, H S C Hooper A Poole, G Robinson, T Hill J P Lavery, and J R Turner

Temporary Honorary Lieutenant A C Inman to be temporary Honorary Captain

The undermentioned to be temporary Captains — R S Berry (late temporary Captain R A M C), J R Williamson (late temporary Captain, I M S), Lieutenant F Perras C A M C and A Cleghorn C A M C

The undermentioned to be temporary Lieutenants — J A Thoms H W Barber, E C Sparrow, A H Ernst, R N Craig A H G Burton, W G Porter J A Macarthur, W M Nairn J W Potter, A Whittome, E G Wheat, and J P Brown

The undermentioned Lieutenants of the C A M C to be temporary Lieutenants M C Bridgman A McNally, A E McCulloch G J Hanley, C B Cameron, W G G Coulter, W Dixon J E Bromley C G Merrick and G H Kearney

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants F K Marriott E G Barker G W Huggins R B Eadie J S Leslie, and T C Bowie

The undermentioned to be temporary Honorary Lieutenants —H Lewis, L M Davies J G Jones A Sunderland A Wilson L Gameson, and P R O'R Phillips

The undermentioned temporary Lieutenants relinquish their commissions —T Marron W C Burns, A F W Millar and J Ellison

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

The undermentioned Lieutenants to be Captains —R G McElney, Ian G M Firth, C G Schurr, J W Malcolm J S Armstrong E S Rowbotham, and O D Jarvie

TERRITORIAL FORCE

Army Medical Services

Lieutenant-Colonel G F Gubbin retired pay, from Deputy Assistant Director of Medical Services to be Assistant Director of Medical Services London Division with the temporary rank of Colonel Captain C H Gregory, from Home Counties Field Ambulance, to be Deputy Assistant Director of Medical Services, Home Counties Division

Royal Army Medical Corps

Welsh Border Mounted Brigade Field Ambulance Lieutenant H C Gilmore to be Captain

Home Counties Field Ambulance Captain H C Barr from Attached to Units other than Medical Units, to be Captain

Lowland Field Ambulance Lieutenant P Kyle to be Captain

South Midland Field Ambulance Lieutenant F J C Groves to be Captain

North Midland Casualty Clearing Station C Cooke to be Lieutenant

London Field Ambulance Lieutenant Colonel M Taylor relinquishes his commission on account of ill health

Wessex Field Ambulance Captain I G Macindoe to be Major

Northern General Hospital The undermentioned Lieutenants to be Captains W Langley and Isa C Marshall

Wessex Casualty Clearing Station Captain A C Alport South African Medical Corps Reserve to be Captain

Notts and Derby Mounted Brigade Field Ambulance Lieutenant W Bailey Thomson to be Captain

East Anglian Field Ambulance Lieutenant W J Wilkinson to be Captain

Highland Field Ambulance Captain H C Bruce from Attached to Units other than Medical Units to be Captain Lieutenant W C D Wilson to be Captain

Attached to Units other than Medical Units—P F Williamson to be Lieutenant Colonel The Duke of Wellington's (West Riding Regiment) Major I G Macindoe from Wessex Field Ambulance Captain S Marron Captain J [illegible] and C W [illegible] Captain The [illegible] to be Major [illegible] to be Lieutenant

A sum of £[illegible] has been bequeathed to the Inverness Infirmary by Mr [illegible] of Inverness [illegible]

The following method was devised by Captain Basil Hughes and myself after a number of experiments with a working model

From Fig 4 it will be seen that the soapy water runs from the bath house into a mixing tank Slaked lime is placed in this tank, and thoroughly mixed by means of a windmill mixer constructed from a couple of old bicycle wheels and a hop pole When the wind fails the mixing must be done by hand, but this is hard work The lime throws down the soap as insoluble calcium stearates, bringing down at the same time all the dirt and impurities The effluent runs through three up and down settling tanks, placed all on the same level These are built of brick with concrete floors The partitions are removable wooden frames with canvas centres The three settling tanks are respectively 3, 4, and 5 feet wide This gradual widening of the tanks tends to retard the flow of the stream, thereby assisting precipitation All the calcium stearates will be found to have settled down in the first two tanks The third tank is used for precipitating the lime and removing the soapy oils This is effected by means of washing soda, which is run into the tank from a drum containing a saturated solution of sodium carbonate This precipitates the calcium salts—chiefly hydroxides—as insoluble calcium carbonate, which immediately falls to the bottom of the tank In addition to this the sodium carbonate causes the soluble oils from the soap to separate out These oils, which give the water an odour of soap, float on the surface, and are absorbed by means of canvas or sacking nailed on to wooden frames The canvas is changed daily From this third settling tank the water flows into a charcoal filter containing 4 inches of powdered charcoal between two layers of sacking Through this filter it runs down into a bricked, concreted well, and is pumped thence into the elevated tank by the petrol pump Thin canvas screens, stretched on strong wire frames, are placed in the channels connecting the precipitating tanks These hold back the scum of lime which separates out on the water cooling The first precipitation tank is cleaned out every three or four days, and the mixing tank daily The sludge is buried The sludge, which is odourless except for a slight smell of lime, does not show any tendency to decompose The water after treatment is quite clear, free from dirt, soap, lime, and soapy oils, and, furthermore, it gives a good lather with soap on being used again The same water may be treated by this method and used an indefinite number of times The only fresh water required is that to replace the loss caused by cleaning the tanks No great quantity, however, is requisite, since most of the contents of each tank can be pumped into the succeeding one until the sediment is reached

In experimenting with the working model in order to ascertain the size of the charcoal filter required for dealing with 4000 gallons a day, it was shown that the rate of flow through the filter varied directly as the height of the superimposed column of water A charcoal filter 6 feet square was found to be adequate This filter consists of a wooden frame 6 feet square and 18 inches high, lined with zinc The floor, made of zinc, is perforated with holes of medium size The latter is covered with sacking, on which a layer of powdered charcoal 4 inches thick is spread This is covered with sacking, which is changed and washed daily

A separate bathroom for officers, on the same principle, has now been added, and as many as 35 in one day have taken advantage of it

The system I have described is characterised by its easy method of construction, its simplicity, and its mobility It has now been working for several months, and its results have proved satisfactory in every way I can strongly recommend this method as highly suitable where large numbers of men have to be dealt with, and more especially in those places where water is scarce

MEDICINE AND THE LAW

The Case of Lieutenant Codere

AT the recent assizes at Winchester Lieutenant George Codere of the 41st Canadian Regiment, was sentenced to death on Feb 5th for the murder of Sergeant H M Ozanne of the 9th Canadian Rifles, at Grayshott on Dec. 8th, 1915 The fact that Codere killed Ozanne was not in dispute at his trial, the defence turning upon the question whether the prisoner was, or was not, insane in a degree recognised by the law as absolving him from responsibility when he committed an act which otherwise constituted a murder characterised by brutal cruelty and by no small amount of effrontery Mr Justice Darling appears to have attached no great weight to the defence of insanity and to the evidence called in support of it, and the prosecution was able to lay medical evidence before the jury to rebut that put forward on the prisoner's behalf Dr Maurice Craig was called, having been instructed by the Treasury to visit and examine Codere in prison, and his testimony as to nothing abnormal, such as would suggest irresponsibility being observed by him is entitled to the greatest weight At the same time it will be a source of some surprise if the verdict of the jury, stated to have been arrived at in 20 minutes does not occupy for a longer period than that the attention of the Court of Criminal Appeal and of the Home Office In these circumstances we refrain from recapitulating It is also undesirable to do more than to say that the prisoner was regarded as eccentric in his regiment, and that there were facts narrated as to his personal and family history as well as medical evidence of his present condition which will no doubt receive further and serious consideration

'Personal Knowledge'

At the Central Criminal Court recently Dr A H Vassie was found not guilty on an indictment charging him with the serious offence of making a false declaration for the purpose of enabling a person to obtain a passport There can be no doubt that Dr Vassie had not the slightest intention to evade or infringe the law and he is entitled to be congratulated upon an acquittal which no doubt embodied the opinion of the jury to that effect That he did in some degree act imprudently may be said to be proved by his having been compelled to submit to the ordeal of prosecution by the authorities and his case should serve as a warning to medical men and others who may be urged, as he was to oblige their patients or friends Dr Vassie was approached by an old patient the uncle of a woman who wished to go abroad and was asked to make the usual declaration on her behalf to the effect that to his personal knowledge he could vouch for her being a fit and proper person to receive a passport She was introduced to him and he questioned her in such a manner as to assure himself of her good faith She said that she was going to Germany to nurse her mother and there was nothing to suggest that she was not a fit and proper person to receive a passport Nevertheless the passport came into the hands of the police when they arrested the woman under the Defence of the Realm Act in July 1915 nearly a year after Dr Vassie's intervention in the matter and she was sentenced to ten years penal servitude The judge summing up pointed out that the fact of the applicant being personally questioned by the accused made it impossible to say that he had no personal knowledge of her In cross-examination for the defence attention had been called to the fact that no definition of the expression 'personal knowledge' was attempted upon the document containing the words. Possibly this omission will be supplied in future, but if not the case of Dr [illegible] will have to be cited as a precedent by those who may be asked to support applications of a similar kind. Passports at the present time are matters of serious importance, and no doubt our experience gained during this period of war will cause us to regard them in this way. It may not be easy to give a general definition of "personal knowledge" which will fit all the cases in which a person is asked to give a certificate as to the character of another, but as a practical rule we should say that 'personal knowledge' in a document of any solemnity or importance implies more than the mere fact of an interview. It must be taken to imply a knowledge gained independently of the occasion for which the document is made out and signed. After all, no prudent person would speak of his 'personal knowledge' of a man whom he was recommending for a post of trust merely upon the strength of an introduction by a relative and of the favourable impression produced by one interview. A prudent person would explain the limitations of his knowledge, but in a formal document there is not usually any opportunity for such explanation.

A Medical Man's Action against a Friendly Society.

At the Southampton county court his honour Judge Gye recently tried an action brought by Mr A H Burnett to recover £18 6s. 6d., the defendants being the trustees of the Juvenile Oddfellows' Society. The plaintiff's case was that in accordance with an arrangement made by certain of the medical men of the district he had attended members of the society according to a fixed scale of fees, sending his accounts direct to the patients. The society undertook responsibility for the amounts owing, and the secretary was informed by the plaintiff of his willingness to give medical attendance to those asking for it on the terms agreed. Some of the accounts were, however, not paid when sent in, the defendants alleging that they were not liable when the fees were in respect of patients whose subscriptions were in arrear, and contending that it was for the medical man who was called in to ascertain that the patient was entitled to medical attendance. His honour in the course of the trial intimated that in his opinion it was for the society to inform the medical men when its members' subscriptions were in arrear, and evidence was given to the effect that when the medical men originally met the representatives of the society and entered into an arrangement with them it was intimated on behalf of the society, in reply to a question upon the subject, that in the case of arrears for no more than three months no notice of arrears would be taken and the fees would be paid. His honour Judge Gye, in giving judgment for the plaintiff, expressed the opinion that the action ought not to have been defended, and emphasised his disapproval by granting costs on a higher scale than counsel had asked.

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments are notified: Fleet [illegible] Eastney [illegible] to [illegible] Patrick's [illegible] for general staff duties; [illegible] Hill, C.V.O., to the [illegible] Dale and [illegible] Sutton to [illegible] Deal; and [illegible] Panter to the hospital ship [illegible] H S Jefferies to the [illegible] Surgeons (Temporary): [illegible] Hospital; J A Prender[illegible] Hospital for [illegible] Plymouth Hospital; and [illegible] for Chatham Hospital.

ARMY MEDICAL SERVICE

[illegible] Giles, C.B. [illegible] Colonel from [illegible] 191[illegible]

ROYAL ARMY MEDICAL CORPS

[illegible] Lieutenant-Colonel [illegible] from [illegible]

[illegible]

Temporary Captains C G Whorlow and F A Cooke relinquish their commissions.

Temporary Captain F W Mackenzie is placed temporarily on retired pay on account of ill health.

The undermentioned temporary Lieutenants to be temporary Captains:—S T Davies, G C Adeney, T P Devlin (late Captain, Royal Field Artillery, Territorial Force), J M Barkley, S T Ormond, F Barnes, G L Leggat, R M Boyd, E Kidd, J M R Marshall, T Stephenson, T J L Thompson, C H Nash, B C Rishworth, W R S Watkins, T L Llewellyn, R H Hutchinson, C P V MacCormack, H S C F D Walker, D F Curran, J Hill, J P Lavery, Ewens D Forde, G Robinson, and Hooper, A Poole, J R Turner.

Temporary Honorary Lieutenant A C Inman to be temporary Honorary Captain.

The undermentioned to be temporary Captains:—J R Williamson (late temporary Captain, R.A.M.C.), Lieutenant R S Perry (late temporary Captain, I.M.S.), A Cleghorn, C.A.M.C., and F Perras, C.A.M.C.

The undermentioned to be temporary Lieutenants:—E C Sparrow, A H Ernst, H W Barber, J A Macarthur, J A Thoms, W G Porter, A H G Burton, E G Wheat, F N Craig, A Whittome, W M Nairn, J W Potter, and J P Brown.

The undermentioned Lieutenants of the C.A.M.C. to be temporary Lieutenants:—M C Bridgman, A McNally, A E McCulloch, W G G Coulter, G J Hanley, C B Cameron, W Dixon, J E Bromley, C G Merrick, and G H Kearney.

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants:—F K Marriott, E G Barker, G W Huggins, R B Eadie, J S Leslie, and T C Bowie.

The undermentioned to be temporary Honorary Lieutenants:—H Lewis, L M Davies, J G Jones, A Sunderland, A Wilson, L Gameson, and P R O'R Phillips.

The undermentioned temporary Lieutenants relinquish their commissions:—T Marron, W C Burns, A F W Millar, and J Ellison.

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

The undermentioned Lieutenants to be Captains:—R G McElney, Ian G M Firth, C G Schurr, J W Malcolm, J S Armstrong, E S Rowbotham, and O D Jarvis.

TERRITORIAL FORCE

Army Medical Services

Lieutenant-Colonel G F Gubbin, retired pay, from Deputy Assistant Director of Medical Services, London Division, to be Assistant Director of Medical Services, London Division, with the temporary rank of Colonel. Captain C H Gregory, from Home Counties Field Ambulance, to be Deputy Assistant Director of Medical Services, Home Counties Division.

Royal Army Medical Corps

Welsh Border Mounted Brigade Field Ambulance: Lieutenant H C Gilmore to be Captain.

Home Counties Field Ambulance: Captain H C Barr, from Attached to Units other than Medical Units, to be Captain.

Lowland Field Ambulance: Lieutenant R Kyle to be Captain.

South Midland Field Ambulance: Lieutenant F J C Groves to be Captain.

North Midland Casualty Clearing Station: C Cooke to be Lieutenant.

London Field Ambulance: Lieutenant-Colonel M Taylor relinquishes his commission on account of ill health.

Wessex Field Ambulance: Captain J G Macindoe to be Major.

Northern General Hospital: The undermentioned Lieutenants to be Captains: W Longley and Ian C Marshall.

Wessex Casualty Clearing Station: Captain A C Alport, South African Medical Corps Reserve, to be Captain.

Notts and Derby Mounted Brigade Field Ambulance: Lieutenant W Bailey Thomson to be Captain.

East Anglian Field Ambulance: Lieutenant F J Wilkinson to be Captain.

Highland Field Ambulance: Captain H G Druce, from Attached to Units other than Medical Units, to be Captain.

Attached to Units other than Medical Units:—R F [illegible] Lieutenant W C D Wilson to be Captain.

Attached to Units other than Medical Units:—[illegible] Lieutenant-Colonel The Duke of Wellington, William [illegible] Major J G Macindoe, from Wessex Field Ambulance; Captain S Martin, [illegible] Captain The Black Watch (Royal Highlanders), [illegible] C W McIntosh [illegible] to be Majors. James [illegible] Currie to be Lieutenant.

A SUM of £20,000 has been bequeathed to the Inverness Infirmary by Miss A M Grant of Inverness, who [illegible] sixth year. Miss Grant was [illegible] Surgeon-General Grant, of the Indian Army.

The following method was devised by Captain Basil Hughes and myself after a number of experiments with a working model

From Fig 4 it will be seen that the soapy water runs from the bath house into a mixing tank Slaked lime is placed in this tank, and thoroughly mixed by means of a windmill mixer constructed from a couple of old bicycle wheels and a hop pole When the wind fails the mixing must be done by hand, but this is hard work The lime throws down the soap as insoluble calcium stearates, bringing down at the same time all the dirt and impurities The effluent runs through three up and down settling tanks, placed all on the same level These are built of brick with concrete floors The partitions are removable wooden frames with canvas centres The three settling tanks are respectively 3, 4, and 5 feet wide This gradual widening of the tanks tends to retard the flow of the stream, thereby assisting precipitation All the calcium stearates will be found to have settled down in the first two tanks The third tank is used for precipitating the lime and removing the soapy oils This is effected by means of washing soda, which is run into the tank from a drum containing a saturated solution of sodium carbonate This precipitates the calcium salts—chiefly hydroxides—as insoluble calcium carbonate, which immediately falls to the bottom of the tank In addition to this the sodium carbonate causes the soluble oils from the soap to separate out These oils, which give the water an odour of soap, float on the surface, and are absorbed by means of canvas or sacking nailed on to wooden frames The canvas is changed daily From this third settling tank the water flows into a charcoal filter containing 4 inches of powdered charcoal between two layers of sacking Through this filter it runs down into a bricked, concreted well, and is pumped thence into the elevated tank by the petrol pump Thin canvas screens, stretched on strong wire frames, are placed in the channels connecting the precipitating tanks These hold back the scum of lime which separates out on the water cooling The first precipitation tank is cleaned out every three or four days, and the mixing tank daily The sludge is buried The sludge, which is odourless except for a slight smell of lime, does not show any tendency to decompose The water after treatment is quite clear, free from dirt, soap, lime, and soapy oils, and, furthermore, it gives a good lather with soap on being used again The same water may be treated by this method and used an indefinite number of times The only fresh water required is that to replace the loss caused by cleaning the tanks No great quantity, however, is requisite, since most of the contents of each tank can be pumped into the succeeding one until the sediment is reached

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A separate bathroom for officers, on the same principle, has now been added, and as many as 35 in one day have taken advantage of it

The system I have described is characterised by its easy method of construction, its simplicity, and its mobility It has now been working for several months, and its results have proved satisfactory in every way I can strongly recommend this method as highly suitable where large numbers of men have to be dealt with and more especially in those places where water is scarce

MEDICINE AND THE LAW

The Case of Lieutenant Codere

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A Medical Man's Action against a Friendly Society

At the Southampton county court his honour Judge Gye recently tried an action brought by Mr A H Burnett to recover £13 6s 6d the defendants being the trustees of the Juvenile Oddfellows Society The plaintiff's case was that in accordance with an arrangement made by certain of the medical men of the district he had attended members of the society according to a fixed scale of fees sending his accounts direct to the patients The society undertook responsibility for the amounts owing, and the secretary was informed by the plaintiff of his willingness to give medical attendance to those asking for it on the terms agreed Some of the accounts were however not paid when sent in the defendants alleging that they were not liable when the fees were in respect of patients whose subscriptions were in arrear and contending that it was for the medical man who was called in to ascertain that the patient was entitled to medical attendance His honour in the course of the trial intimated that in his opinion it was for the society to inform the medical men when its members subscriptions were in arrear and evidence was given to the effect that when the medical men originally met the representatives of the society and entered into an arrangement with them it was intimated on behalf of the society in reply to a question upon the subject that in the case of arrears for more than three months no notice of arrears would be taken and the fees would be paid His honour Judge Gye in giving judgment for the plaintiff expressed the opinion that the action ought not to have been defended and emphasised his disapproval by granting costs on a higher scale than counsel had asked

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

Temporary Captains C G Whorlow and F A Cooke relinquish their commissions

Temporary Captain F W Mackenzie is placed temporarily on retired pay on account of ill health

The undermentioned temporary Lieutenants to be temporary Captains —S T Davies G C Adeney T P Devlin (late Captain Royal Field Artillery, Territorial Force) F Barnes G L Leggat I M Barkley, S J Ormond P Marshall T Stephenson R M Boyd, E Kidd J M Pishworth W R S Watkins T J L Thompson C H Nash F D Walker R H Hutchinson T L Llewellyn B C Ewens D Forde D F Curran C P N MacCormack, H S C Hooper A A Poole, G Robinson, T Hill J P Lavery, and J P Turner

Temporary Honorary Lieutenant A C Inman to be temporary Honorary Captain

The undermentioned to be temporary Captains — R S Berry (late temporary Captain R.A.M.C.) J R Williamson (late temporary Captain I.M.S.), Lieutenant F Perras C.A.M.C and A Cleghorn C.A.M.C

The undermentioned to be temporary Lieutenants — J A Thoms H W Barber E C Sparrow, A H Ernst P N Craig A H G Burton W G Porter J A Macarthur, W M Nairn J W Potter, A Whittome E G Wheat and J P Brown

The undermentioned Lieutenants of the C.A.M.C to be temporary Lieutenants M C Bridgman A McNally A. E McCulloch G J Hanley C B Cameron W G G Coulter W Dixon J E Bromley C G Merrick, and G H Kearney

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants F K Marriot E G Barker G W Huggins R B Eadie T S Leslie and T C Bowie

The undermentioned to be temporary Honorary Lieutenants —H Lewis L M Davies T G Jones A Sunderland A Wilson L Gameson and P R O R Phillips

The undermentioned temporary Lieutenants relinquish their commissions —T Marron W C Burns, A F W Millar and J Ellison

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

The undermentioned Lieutenants to be Captains —R G McElney Ian G M Firth C G Schurr, J W Malcolm T S Armstrong F S Rowbotham, and O D Jarvis

TERRITORIAL FORCE

Army Medical Services

Lieutenant-Colonel G F Gubbin retired pay from Deputy Assistant Director of Medical Services to be Assistant Director of Medical Services London Division with the temporary rank of Colonel Captain C H Gregory *from* Home Counties Field Ambulance to be Deputy Assistant Director of Medical Services, Home Counties Division

Royal Army Medical Corps

Welsh Border Mounted Brigade Field Ambulance Lieutenant H C Gilmore to be Captain

Home Counties Field Ambulance Captain H C Barr from Attached to Units other than Medical Units, to be Captain

Lowland Field Ambulance Lieutenant P Kyle to be Captain

South Midland Field Ambulance Lieutenant F T C Groves to be Captain

North Midland Casualty Clearing Station C Cooke to be Lieutenant

London Field Ambulance Lieutenant Colonel M Taylor relinquishes his commission on account of ill health

Wessex Field Ambulance Captain J G Macindoe to be Major

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census 7615 births and 5297 deaths were registered during the week ended Saturday, Feb 12th The annual rate of mortality in these towns which had been 14 2, 14·0, and 14 7 per 1000 in the three preceding weeks rose in the week under notice to 15 2 per 1000 of their aggregate population, estimated at 18,136,180 persons at the middle of the year 1914 During the first six weeks of the current quarter the mean annual death rate in these towns averaged 14 4, against a corresponding rate of 13 7 per 1000 in London Among the several towns the annual death rate last week ranged from 6 7 in Oxford, 8 4 in Eastbourne, 8 7 in Wimbledon and 8 8 in Edmonton and in Norwich, to 21 1 in Dudley and in Sunderland, 23 2 in Burnley, 24 5 in Ipswich, and 24 8 in West Bromwich

The 5297 deaths from all causes were 199 in excess of the number in the previous week and included 345 which were referred to the principal epidemic diseases, against numbers increasing from 305 to 340 in the three preceding weeks Of these 345 deaths, 121 resulted from whooping-cough, 71 from diphtheria 64 from infantile diarrhœal diseases 63 from measles, 18 from scarlet fever and 8 from enteric fever, but not one from small pox The annual death rate from these diseases was equal to 1 0 per 1000, and coincided with that recorded in the previous week The deaths attributed to whooping-cough, which had been 74, 80 and 104 in the three preceding weeks, further rose to 121 and included 24 in London, 11 in Liverpool, 8 in West Ham, 7 each in Birmingham and Sheffield, and 6 in Coventry The deaths referred to diphtheria, which had declined from 84 to 63 in the four preceding weeks, rose to 71, of which 20 were registered in London, 4 each in Portsmouth and Plymouth, and 3 each in Birmingham, Derby, and Liverpool The deaths from diarrhœa and enteritis (among infants under 2 years), which had been 60, 68, and 70 in the three preceding weeks, fell to 64 , 16 deaths occurred in London, 8 in Birmingham, and 4 each in Manchester and Salford The fatal cases of measles, which had declined from 81 to 62 in the five preceding weeks, numbered 63 and included 9 in Leeds, 7 in Bristol, 6 in London, 5 in Burnley, and 4 each in Stockport and Hull The deaths attributed to scarlet fever, which had been 10 25, and 28 in the three preceding weeks, fell to 18, and included 2 each in London, Wigan and Leeds The fatal cases of enteric fever, which had been 9, 9, and 12 in the three preceding weeks, fell to 8, of which 2 occurred in Wigan

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2257, 2189, and 2153 at the end of the three preceding weeks further fell to 2108 on Saturday last, 196 new cases were admitted during the week, against 286, 260, and 253 in the three preceding weeks These hospitals also contained on Saturday last 1576 cases of diphtheria, 176 of whooping-cough, 52 of measles and 50 of enteric fever, but not one from small pox The 1238 deaths from all causes in London exceeded the number in the previous week by 33 and corresponded to an annual death rate of 14 3 per 1000 The deaths referred to diseases of the respiratory system, which had declined from 264 to 225 in the four preceding weeks, were again 225 in the week under notice, and were 230 below the number registered in the corresponding week of last year

Of the 5297 deaths from all causes in the 95 towns 202 resulted from violence and 420 were the subject of coroners' inquests while 1506 occurred in public institutions The causes of 51 or 1 0 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in London and in its 14 suburban districts, in Leeds Bristol Bradford, Newcastle-on Tyne and in 51 other smaller towns Of the uncertified causes 9 each were registered in Birmingham and Liverpool, 4 in Manchester and 2 each in Nottingham, Preston, Barrow in Furness, Hull South Shields and Gateshead

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2 355 300 persons at the middle of this year 1036 births and 734 deaths were registered during the week ended Saturday, Feb 12th The annual rate of mortality in these towns which had been 14 4, 14 6 and 13 [illegible] per 1000 in the three preceding weeks, rose to 16 3 per 1000 in the week under notice During the first six weeks of the current quarter the mean annual death rate in these towns averaged 15·0 against 14 4 per 1000 in the large English towns Among the several towns the death rate last week ranged from 10 3 in Clydebank 11 1 in Motherwell and 11 5 in Perth to 18 4 in Aberdeen 22 1 in Greenock and 29 8 in Coatbridge

The 734 deaths from all causes were 125 in excess of the number in the previous week and included 71 which were referred to the principal epidemic diseases against 59 and 50 in the two preceding weeks Of these 71 deaths [illegible] resulted from measles, 18 from diphtheria 11 from scarlet fever, 5 from whooping cough, 3 from infantile diarrhœal diseases, and 2 from enteric fever, but not one from small pox The annual death rate from these diseases was equal to 1 6 against 1 0 per 1000 in the large English towns The deaths attributed to measles, which had been 19 29 and 22 in the three preceding weeks rose to 32 and included 12 each in Glasgow and Coatbridge 4 in Greenock and 2 in Edinburgh The deaths referred to diphtheria which had been 8, 15 and 14 in the three preceding weeks rose to 18 and included 7 in Glasgow and 3 each in Dundee, Aberdeen, and Paisley The fatal cases of scarlet fever which had been 9, 7 and 7 in the three preceding weeks, rose to 11 and comprised 6 in Glasgow 2 each in Edinburgh and Paisley, and 1 in Motherwell The 5 deaths attributed to whooping-cough were 2 in excess of the average in the earlier weeks of the quarter, but showed no excess in any individual town The deaths of infants (under 2 years) which had been 4 13 and 6 in the three preceding weeks fell to 3 The 2 fatal cases of enteric fever were registered in Glasgow

The deaths referred to diseases of the respiratory system which had been 92, 97, and 93 in the three preceding weeks rose to 95 in the week under notice, but were 182 below the number registered in the corresponding week of last year The deaths from violence numbered 34, against 23 in each of the two preceding weeks

HEALTH OF IRISH TOWNS

In the 19 town districts of Ireland, with populations exceeding 10,000 persons at the last Census, 585 births and 419 deaths were registered during the week ended Saturday Feb 5th The annual rate of mortality in these towns which had been 17 4, 17·9 and 17 6 per 1000 in the three preceding weeks rose in the week under notice to 19·0 per 1000 of their aggregate population estimated at 1,143 468 persons at the middle of last year During the first five weeks of the current quarter the mean annual death rate in these town averaged 18 6 against corresponding rates of 14 [illegible] and 14 7 per 1000 in the English and Scotch towns respectively The death rate during the week under review was equal to 20 1 in Dublin (against 13·9 in London and 13·0 in Glasgow), 16·9 in Belfast 17 7 in Cork, 19·0 in Londonderry, 21 7 in Limerick and 24 7 in Waterford while in the 13 smaller towns the mean rate was 20 5 per 1000

The 419 deaths from all causes were 31 in excess of the number in the previous week, and included 30 which were referred to the principal epidemic diseases against 32 and 27 in the two preceding weeks Of these 30 deaths 11 resulted from whooping-cough, 8 from infantile diarrhœal diseases, 5 each from measles and diphtheria, and 1 from scarlet fever but not one from enteric fever or from small pox The annual death rate from these diseases was equal to 1 4 against corresponding rates of 1·0 and 1 1 per 1000 in the English and Scotch towns respectively The deaths attributed to whooping-cough which had been 5 8, and 7 in the three preceding weeks rose to 11 and comprised 6 in Belfast, 2 each in Dublin and Limerick, and 1 in Ballymena The deaths of infants (under 2 years) from diarrhœa and enteritis which had been 6 8 and 8 in the three preceding weeks were again 8 in the week under review, and included 6 in Dublin The fatal cases of measles which had been 14 9 and 6 in the three preceding weeks numbered 5 of which 3 occurred in Belfast and 2 in Dublin The 5 deaths from diphtheria were 3 in excess of the average in the earlier weeks of the quarter, and included 2 in Belfast The fatal case of scarlet fever was registered in Cork

The deaths referred to diseases of the respiratory system which had declined from 147 to 63 in the five preceding weeks, rose to 76 in the week under notice, but were 9 below the number registered in the corresponding week of last year Of the 419 deaths from all causes 14[illegible] or [illegible] per cent occurred in public institutions and 9 resulted from violence The causes of 18 or 4 3 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest and included 4 in Dublin and 3 in Limerick In the large English towns the proportion of uncertified causes did not exceed 1 1 per cent

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MUMPS AT WICK—The attendance at the board school in Wick has recently been very low During the month of January 1563 absentees were visited by a school officer who found that they were really all suffering from mumps

Obituary

IVAN PETROWITCH PAVLOV,

DIRECTOR OF THE PHYSIOLOGICAL SECTION OF THE IMPERIAL INSTITUTE OF EXPERIMENTAL MEDICINE AND PROFESSOR IN THE IMPERIAL MILITARY ACADEMY OF MEDICINE, PETROGRAD.

THE death of this distinguished physiologist was announced at the end of last week by Reuter's Petrograd correspondent. Pavlov was born in Riazan in 1849, so that he died at the age of 67. Pavlov's work and that of his numerous Russian pupils were brought to the notice of British physiologists and physicians through the translation by Professor W. H. Thompson of Pavlov's collected works originally published in the Russian language in 1897. So important were those lectures on the work of the digestive glands that they were reproduced in German and French and finally in English. The first English edition was published in 1902 and the second in 1910. These lectures represent the work of nearly ten years by Pavlov and his pupils. It must be remembered that the Imperial Institute of Experimental Medicine is [illegible] for physiological research and

possible, as did also that of fistulæ of various kinds for the study of the secretions of the digestive glands. Many of Pavlov's results have now become part of general physiological knowledge. The record of original work is a brilliant one. Many problems were solved and new ones foreshadowed. We now know that the vagus contains specific secretory nerves for the gastric glands, while the gastric juice itself works with great precision that the juice as it flows from the glands possesses a constant acidity, that the rate of flow and composition of the juice vary and are determined by every single kind of food. Similar results are claimed for the work of the pancreas, there being an adaptation of the secretion to the nature of the requirements—so it would appear that the gastric and pancreatic juices are poured out in correspondence both qualitatively and quantitatively to the amount and kind of food partaken of. The discovery of secretin by Bayliss and Starling in 1902 and later of gastrin by Edkins, added a new and important factor—a chemical factor—to the elucidation of the secretory phenomena of the digestive juices. The importance of appetite and the secretion

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census 7615 births and 5297 deaths were registered during the week ended Saturday, Feb 12th The annual rate of mortality in these towns which had been 14 2, 14·0, and 14 7 per 1000 in the three preceding weeks, rose in the week under notice to 15 2 per 1000 of their aggregate population, estimated at 18,136,180 persons at the middle of the year 1914 During the first six weeks of the current quarter the mean annual death rate in these towns averaged 14·4, against a corresponding rate of 13 7 per 1000 in London Among the several towns the annual death rate last week ranged from 6 7 in Oxford 8 4 in Eastbourne, 8 7 in Wimbledon and 8 8 in Edmonton and in Norwich, to 21 1 in Dudley and in Sunderland, 23 2 in Burnley, 24 5 in Ipswich, and 24 8 in West Bromwich

The 5297 deaths from all causes were 199 in excess of the number in the previous week, and included 345 which were referred to the principal epidemic diseases, against numbers increasing from 305 to 340 in the three preceding weeks Of these 345 deaths, 121 resulted from whooping-cough, 71 from diphtheria 64 from infantile diarrhœal diseases 63 from measles, 18 from scarlet fever and 8 from enteric fever, but not one from small pox The annual death rate from these diseases was equal to 1·0 per 1000, and coincided with that recorded in the previous week The deaths attributed to whooping-cough, which had been 74, 80 and 104 in the three preceding weeks, further rose to 121 and included 24 in London, 11 in Liverpool, 8 in West Ham, 7 each in Birmingham and Sheffield, and 6 in Coventry The deaths referred to diphtheria, which had declined from 84 to 63 in the four preceding weeks, rose to 71, of which 20 were registered in London, 4 each in Portsmouth and Plymouth, and 3 each in Birmingham, Derby, and Liverpool The deaths from diarrhœa and enteritis (among infants under 2 years), which had been 60, 68, and 70 in the three preceding weeks, fell to 64 , 16 deaths occurred in London, 8 in Birmingham, and 4 each in Manchester and Salford The fatal cases of measles, which had declined from 81 to 62 in the five preceding weeks, numbered 63, and included 9 in Leeds, 7 in Bristol, 6 in London, 5 in Burnley, and 4 each in Stockport and Hull The deaths attributed to scarlet fever, which had been 10 25, and 28 in the three preceding weeks, fell to 18, and included 2 each in London, Wigan and Leeds The fatal cases of enteric fever, which had been 9, 9, and 12 in the three preceding weeks, fell to 8, of which 2 occurred in Wigan

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2257, 2189, and 2153 at the end of the three preceding weeks, further fell to 2103 on Saturday last, 196 new cases were admitted during the week, against 286, 260, and 253 in the three preceding weeks These hospitals also contained on Saturday last 1576 cases of diphtheria, 176 of whooping-cough, 52 of measles and 50 of enteric fever, but not one from small pox The 1238 deaths from all causes in London exceeded the number in the previous week by 33 and corresponded to an annual death rate of 14 3 per 1000 The deaths referred to diseases of the respiratory system, which had declined from 264 to 225 in the four preceding weeks, were again 225 in the week under notice, and were 230 below the number registered in the corresponding week of last year

Of the 5297 deaths from all causes in the 96 towns, 202 resulted from violence and 420 were the subject of coroners' inquests while 1506 occurred in public institutions The causes of 51 or 1·0 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in London and in its 14 suburban districts in Leeds Bristol Bradford, Newcastle-on Tyne and in 51 other smaller towns Of the uncertified causes, 9 each were registered in Birmingham and Liverpool, 4 in Manchester and 2 each in Nottingham, Preston Barrow in Furness, Hull, South Shields and Gateshead

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2 355,300 persons at the middle of this year, 1036 births and 734 deaths were registered during the week ended Saturday, Feb 12th The annual rate of mortality in these towns, which had been 14 [illegible] 14 6 and 13 [illegible] per 1000 in the three preceding weeks rose to 16 3 per 1000 in the week under notice During the first six weeks of the current quarter the mean annual death rate in these towns averaged 15·0, against 14 4 per 1000 in the large English towns Among the several towns the death rate last week ranged from 10 3 in Clydebank 11 1 in Motherwell and 11 5 in Perth to 18 4 in Aberdeen 22 1 in Greenock and 29 8 in Coatbridge

The 734 deaths from all causes were 123 in excess of the number in the previous week and included 71 which were referred to the principal epidemic diseases against 5[illegible] and 50 in the two preceding weeks Of these 71 deaths [illegible] resulted from measles, 18 from diphtheria 11 from scarlet fever, 5 from whooping cough, 3 from infantile diarrhœal diseases, and 2 from enteric fever, but not one from small pox The annual death rate from these diseases was equal to 1 6 against 1·0 per 1000 in the large English towns The deaths attributed to measles which had been 19, 29 and 22 in the three preceding weeks, rose to 32 and included 12 each in Glasgow and Coatbridge 4 in Greenock and 2 in Edinburgh The deaths referred to diphtheria which had been 8, 15 and 14 in the three preceding weeks rose to 18, and included 7 in Glasgow and 3 each in Dundee, Aberdeen, and Paisley The fatal cases of scarlet fever which had been 9 7 and 7 in the three preceding weeks rose to 11 and comprised 6 in Glasgow 2 each in Edinburgh and Paisley, and 1 in Motherwell The 5 deaths attributed to whooping cough were 2 in excess of the average in the earlier weeks of the quarter, but showed no excess in any individual town The deaths of infants (under 2 years), which had been 4 13 and 6 in the three preceding weeks fell to 3 The 2 fatal cases of enteric fever were registered in Glasgow

The deaths referred to diseases of the respiratory system which had been 92, 97, and 93 in the three preceding weeks rose to 95 in the week under notice but were 182 below the number registered in the corresponding week of last year The deaths from violence numbered 34, against 23 in each of the two preceding weeks

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The Treatment of Leprosy by Intravenous Injections of Chaulmoogra Oil

M Vahram, impressed by the fact that chaulmoogra oil prescribed by the mouth is often badly tolerated, has attempted to administer it intravenously For this purpose he has evolved a preparation consisting of an oily emulsion in the presence of gum arabic which, after desiccation in vacuo, is submitted to a prolonged grinding, followed by a suspension in the initial volume of liquid, which is then sterilised at 110° C This pseudo solution presents granules of extreme fineness, recalling in their size those of the colloidal state Injected into the vein this preparation does not produce any reaction, and the patient can rejoin his occupation immediately after the injection The therapeutic results of this treatment have been most encouraging From the first injection a return of sensibility has been noticed, attended by progressive diminution of the nodules and the disappearance of open lesions The quantity of fluid to be injected is small the initial dose is ½ c.c , progressively increased up to 2 c c

The Secondary Closing of Wounds of War

Professor Pozzi has presented a note to the Academy of Medicine on the work of MM Carrel, Dehelly, and Dumas M Carrel begins by disinfecting the wound by means of a continuous instillation of hypochlorite of soda 1 in 200 (Dakin's solution) When a bacteriological examination of the wound secretion no longer shows micro organisms the wound is accurately brought together by strips of plaster Granulations, when present, are first removed with the curette and the wound laid freely open with a bistoury, it is then closed completely without a drain as in the preceding case. In this way cicatrices are rapidly obtained which are as supple as those of an immediate aseptic operation.

Late Tetanus

Tetanus may appear 30 or even 50 days after infliction of the wound which appears to have occasioned it, and may occur in wounded men who have received a preventive injection of serum. It may manifest itself without evident exciting cause, but is especially liable to occur in connexion with operations, whether near or remote from the site of the wound, or with the recrudescence of inflammation in the wound itself. The persistence of foreign bodies in the wound is not essential It must therefore not be forgotten that this malady, so apt to have a fatal termination, may be started by the undertaking of an operation or by the occurrence of suppuration in a wound The remedy is obvious to renew the injection of serum with every fresh operation undertaken, to repeat the injection once a week in suppurating cases The communication brought by Dr Laveran before the Academy of Sciences was the result of a study made on these lines by Dr Bazy Dr Bazy's example should be rigorously followed Late tetanus may then disappear from the hospitals

Feb 14th

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Correspondence.

"Audi alteram partem."

THE DANGER TO CIVILIAN COMMUNITIES OF A TYPHOID-PARATYPHOID OUTBREAK.

To the Editor of THE LANCET

SIR,—Timely attention has been called in THE LANCET of Feb 12th to the increased danger at the present juncture to civilian communities of a typhoid paratyphoid outbreak The danger has been emphasised by recent events in Reading Thanks to the energetic action of the Reading sanitary authority hopes are entertained that the outbreak there has been limited About 53 cases have occurred with a mortality of 7 Bacteriological investigation of these cases is *still in* progress *It* may be mentioned, however, that the *sera from* 42 cases have been examined as to their agglutinating properties towards B typhosus, para typhosus A, and paratyphosus B *All* agglutinated B typhosus in various degrees, 17 agglutinating also paratyphoid as follows one reacted with para typhoid A, one with paratyphoid A and B, and the remaining 15 with paratyphoid B From the results obtained so far it may be said that all these 42 patients have typhoid infection, as none of them had been inoculated against typhoid previously The presence of a co existing paratyphoid infection, especially of the A variety, points strongly to infection from a military source So far as I can learn it has been ascertained that the food and milk supply are not to be blamed The only obvious thing in common to all the cases is the water supply which, being river water, might conceivably be incriminated The cases, however, are widely spread as regards locality, and nothing definite in this respect has been ascertained There is, however, one factor which remains to be considered—viz , the presence in Reading of a large number of sick and wounded as well as a large number of billeted men Among the sick and wounded are many suffering from, or convalescent from, the typhoid paratyphoid group of disease Probably so many patients suffering from this group infection have never been gathered together in this country before I venture to suggest that this is probably the original source of the infection.

We must also take into consideration the men who come back straight from the dirt and filth of the trenches for a few days' furlough, some of whom may actually bring infection with them One of the methods of spread is possibly that by hand contact Of the 53 cases 13 are females of the servant class whose ages range from 14 to 30, about 21 are school children One of the remaining 18 ministered as a priest directly to sick and convalescent soldiers, and was thus in close touch with them Another was a stretcher bearer, whose duty it was to assist at the detraining of convoys, and a third was a post-office official Most of the cases probably *received their* infection about or soon after Christmas, when many of the soldiers who were sufficiently fit were entertained in various Reading schools Another possible source may be the tramcars, which are used extensively by the convalescents who are allowed to spend an hour or two in the afternoon in town The danger of paper currency cannot be overlooked The notes pass through all kinds of hands, and bitters, and the importance of appetite This lecture epitomises the great practical importance of Pavlov's work from a dietetic point of view, work which provides a sound basis for the explanation of many pathological phenomena connected with the alimentary canal Pavlov was a charming personality, beloved by his pupils, for he was ever ready to stimulate their researches and to grant them opportunities and his personal aid in their execution

JOHN PINKERTON, M D GLASG , F R F P S GLASG , F R C S EDIN ,

HONORARY PHYSICIAN TO H M THE KING SURGEON MAJOR GENERAL, I M S (RETIRED)

Surgeon Major General John Pinkerton, who died on Feb 11th, entered the Indian Medical Service in 1855, and after a service of 38 years in India he retired in 1893 During his service he held many important posts He was Superintendent General of the Vaccination Department of the Bombay Presidency from 1868 till 1876, he organised the department and drafted the first Vaccination Bill in India which became law in 1877 From 1876 till 1882 he was in charge of the European General Hospital in Bombay city, the most important executive charge in the Presidency He had been a Fellow of the Bombay University since 1868, and was twice dean of the medical faculty For five years preceding his retirement he was at the head of his service, and when he retired he was a member of the Legislative Council of the Presidency He received the reward for meritorious services, commonly called the "Good Service Pension," while on his retirement he was appointed honorary physician to Queen Victoria Later he was also honorary physician to King Edward VII and to his present Majesty King George V In 1894 he was unanimously elected a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow, on the ground of distinction in medical science and practice In 1907 he was made a Fellow of the Royal College of Surgeons of Edinburgh

Surgeon General Pinkerton lost his only son, Dr John Pinkerton, in the Russo Turkish War of 1878 He is survived by a daughter, who in 1874 married Dr Ebenezer Duncan, now President of the Royal Faculty of Physicians and Surgeons of Glasgow

FREDERICK THOMAS BISHOP LOGAN, M R C S , L R C P EDIN

Mr F T B Logan who recently died at Bristol in his fifty ninth year, was the son of the late Mr J Logan, surgeon, of Bristol He received his medical education at the Bristol Medical School and Guy's Hospital, London, qualifying in 1879 He commenced practice in Bristol and was medical officer to the Bristol sanitary infectious and Bedminster fever hospitals He was also a district medical officer and public vaccinator for the Long Ashton union Mr Logan was a good sportsman and was at one time captain of the Old Bristolians Cricket Club, South Bristol Hockey Club and president of the Gloucester Football Association Mr Logan was greatly respected in Bristol, where he will be much missed

Mr William Monckton, M R C S , L R C P L M Edin , who recently died in London in his eightieth year was for many years medical officer of health of Portishead Somerset

PARIS

(FROM OUR OWN CORRESPONDENT)

Camp Jaundice

MM Sarrailhé and Clunet have reported to the Medical Society of the Hospitals a study made in Gallipoli of a number of cases of icterus Camp jaundice was noted under the following conditions The troops were fatigued they had been restricted for several weeks to a confined area, on a limited diet and exposed to bad weather In most of the cases the jaundice occurred in the course of an epidemic of febrile gastric disturbance or succeeded this Occasionally the jaundice came first Blood culture showed that the two conditions were not simply coincident but that the icterus was actually due to a hepatic localisation of the paratyphoid virus which was found in the blood 294 times out of 606 examinations The persistence of the colouration of the stools, the absence of pruritus, the presence of albuminuria and urobilinuria associated with the elimination of pigment by the urine, the diminution of the resistance of the red blood cells the association with vesicular and hepatic reactions these were the most interesting points which commonly occurred From a bacteriological standpoint the authors have witnessed a distinct change in the biological characters of the organisms isolated from the blood coincident with the appearance of icterus in the course of an epidemic of paratyphoid

Serotherapy and Latent Infections

Dr Roux, director of the Pasteur Institute, has just introduced to the Academy of Sciences some work by Dr Bassuet, which he thinks will be of capital importance in the treatment of the wounds of war Recently MM Phocas, Delbet Quenu, Tuffier, Chaput, Moty, and Schwartz have brought forward observations at the Society of Surgery bearing on the revival of latent infection They all attributed this revival of the infection of old lesions to surgical intervention, and the reaction so produced has been regarded as harmful in the majority of cases Dr Bassuet has also observed examples of the same process, but he thought differently of its significance Such revival determined not by operative traumatism but by the appropriate use of serotherapy, resulted he found in advantage to the patient Dr Bassuet is surgeon to a hospital for fistula, and has had occasion to treat 421 patients with old wounds who had been in various hospitals for 8 to 14 months without recovering All these patients have now been treated by the serum of Leclainche and Vallee, the preparation of which was described in THE LANCET of Oct 9th, 1915 Under this treatment in 49 patients with chronic lesions a revival of an apparently extinct infection had occurred at some spot remote from the wound and point of injection but always at the cicatrix of another wound with the result that an abscess formed and opened spontaneously at the old cicatrix In 31 cases out of 49 débris of clothes, splinters of bone or fragments of projectiles had been eliminated Local recovery was coincident with a rapid improvement in the general condition which up to then had given rise to anxiety Dr Roux stated that up to date Dr Bassuet had succeeded in extracting 377 foreign bodies of various kinds fragments of bone débris of projectiles drainage tube wire and so forth many patients with a minimum of surgical intervention and delay

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M Vahram, impressed by the fact that chaulmoogra oil prescribed by the mouth is often badly tolerated, has attempted to administer it intravenously For this purpose he has evolved a preparation consisting of an oily emulsion in the presence of gum arabic which, after desiccation in vacuo, is submitted to a prolonged grinding, followed by a suspension in the initial volume of liquid, which is then sterilised at 110° C This pseudo solution presents granules of extreme fineness, recalling in their size those of the colloidal state Injected into the vein this preparation does not produce any reaction, and the patient can rejoin his occupation immediately after the injection The therapeutic results of this treatment have been most encouraging From the first injection a return of sensibility has been noticed, attended by progressive diminution of the nodules and the disappearance of open lesions The quantity of fluid to be injected is small the initial dose is ½ c.c , progressively increased up to 2 c c

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We must also take into consideration the men who come back straight from the dirt and filth of the trenches for a few days' furlough, some of whom may actually bring infection with them One of the methods of spread is possibly that by hand contact Of the 53 cases 13 are females of the servant class whose ages range from 14 to 30, about 21 are school children One of the remaining 18 ministered as a priest directly to sick and convalescent soldiers, and was thus in close touch with them Another was a stretcher bearer, whose duty it was to assist at the detraining of convoys, and a third was a post office official Most of the cases probably received their infection about or soon after Christmas, when many of the soldiers who were sufficiently fit were entertained in various Reading schools Another possible source may be the tramcars, which are used extensively by the convalescents who are allowed to spend an hour or two in the afternoon in town The danger of paper currency cannot be overlooked The notes pass through all kinds of hands, and owing to their tendency to stick together it is a common practice to moisten the tips of the fingers with saliva and in so doing infection may be conveyed to the mouth While isolation of cases and carriers will go a long way to prevent dissemination of the organisms it is nevertheless not sufficient Cases are bound to pass unrecognised at times and those regarded as clear prove later to be carriers It is infinitely better to prevent the possibility of this infection, and there is only one way to do this—viz, by preventive inoculation

The successful application of preventive inoculation to the majority of our soldiers is one of the most brilliant achievements of medicine, and has probably saved more lives than all those lost by violent means The low incidence of typhoid amongst the troops bears eloquent testimony to the efficacy of antityphoid inoculation, and what I plead for here and for those towns which are liable to be germ centres for the time, is the advocacy by the proper authorities of the value of antityphoid inoculation not for the soldier only, but for the civilian as well—I am, Sir, yours faithfully,

Reading Feb 14th 1916 ROBERT DONALDSON

MENTAL DISORDERS AND ATTESTATION

To the Editor of THE LANCET

SIR,—Almost daily the very serious question is brought before me as to my duty in reference to the fitness of nervous people for military service. If I had not seen so many cases at the various hospitals for the wounded and invalided soldiers I should have had more hesitation in writing on this subject, but I have come across so many men invalided, in consequence of nervous or mental breakdowns, who, in my opinion, ought never to have been sent to the front First, I have been asked to give certificate of fitness by men really anxious to serve, who have very slight attacks of *petit mal* Naturally I have declined to pass such as fit In other cases I have been consulted by men who, having had more than one attack of insanity have felt very sensitive because their companions looked upon them as shirkers, and in these cases the question was more difficult because if not allowed to serve they worry and look upon themselves as suspects, this suspicion producing sleeplessness and general ill health which might readily lead to a fresh breakdown In these cases, as a rule, I object to their serving in active military work, but encourage munition and other labour

I think it a safe rule to make that a young man who has had an acute attack of mental disorder within three years should be kept from active service, while if he has had more than one attack he should be rejected Some of the most difficult cases which I have had to report on have been men who some years before have had serious and prolonged mental disorder, due to overwork or to special strain Many of these appear to be quite strong are themselves afraid of breaking down, and also afraid of being thought cowardly As a rule I prefer to refer such men to the doctors who have had to deal with them in the interval of health As I have said, it is a serious thing to send men into active service who run real risks of breaking down The notion that the training will "buck up" the men I have not found to be true I have in my experience however, to report that I have known definitely 'defectives who have proved valuable Army Service men or motor drivers

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Two important Memorandums have just been issued by the Health of Munition Workers Committee, of which Sir George Newman is chairman, dealing with Employment of Women (Memo. No. 4) and Hours of Work (Memo. No. 5).

Employment of Women.

At the outset emphasis is laid on the fact that in considering the conditions of employment of women workers, as compared with those of men, account must be taken not only of physiological differences, owing to their tendency to stick together it is a common practice to moisten the tips of the fingers with saliva and in so doing infection may be conveyed to the mouth While isolation of cases and carriers will go a long way to prevent dissemination of the organisms it is nevertheless not sufficient Cases are bound to pass unrecognised at times and those regarded as clear prove later to be carriers It is infinitely better to prevent the possibility of this infection, and there is only one way to do this—viz, by preventive inoculation

The successful application of preventive inoculation to the majority of our soldiers is one of the most brilliant achievements of medicine, and has probably saved more lives than all those lost by violent means The low incidence of typhoid amongst the troops bears eloquent testimony to the efficacy of antityphoid inoculation, and what I plead for here and for those towns which are liable to be germ centres for the time, is the advocacy by the proper authorities of the value of antityphoid inoculation not for the soldier only, but for the civilian as well—I am, Sir, yours faithfully,

Reading Feb. 14th 1916 ROBERT DONALDSON

MENTAL DISORDERS AND ATTESTATION

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Employment of Women

At the outset emphasis is laid on the fact that in considering the conditions of employment of women workers, as compared with those of men, account must be taken not only of physiological differences, but also of those contributions which women alone can make to the welfare of the State, since upon the womanhood of the country most largely rests the privilege of creating and maintaining a wholesome family life and of developing the higher influences of social life Five matters, apart from questions of wages, concern the health and industrial output of the worker, and demand the careful attention of employers in regard to the employment of women on any large scale These are given as (1) the period of employment (including night work, length of hours, overtime, &c), (2) rest pauses and the provision of meals, (3) sanitary conditions of the factory, (4) physical condition of women workers, (5) questions of management and supervision Observations are offered under each heading, the result of careful inquiry, and to these we shall return in greater detail The Committee do not desire to suggest the imposition of conditions which are likely to embarrass employers or restrict the usefulness of women, but deal with matters which in their view are both necessary and urgent in the interest of the women themselves, and the industrial output of which they are capable They state their conclusion that if the present long hours, the lack of helpful and sympathetic oversight, the inability to obtain good, wholesome food, and the great difficulties of travelling are allowed to continue, it will be impracticable to secure or maintain for an extended period the high maximum output of which women are undoubtedly capable

Hours of Work

The maintenance of the high maximum output combined with consideration of what is immediately practicable regarding the health of the worker in relation to this output is the theme of this Memorandum The limits of hours which the Committee propose are based on the expectation that the war will be of long duration, and are such as they think can reasonably be continued over a protracted period

Overtime, which is commonly justified on the ground that no other arrangement is possible owing to a dearth of workers and to the difficulties of increasing plant, has a number of attendant objections At one time cases of men working as much as 90 hours per week were common, more recently there has been a tendency to reduce hours, but even so weekly totals of 70 to 80 hours are still frequent Some overtime is no doubt inevitable, but the Committee are satisfied that hours such as these cannot be worked with impunity The objections to overtime are briefly stated as follows —

1 It is liable to impose too severe a strain on the workers Many witnesses assert that while for emergency overtime is effective, after a period the rate of production tends to decrease and the extra hours to produce little or no additional output Moreover, the quality of the output may be adversely affected during the whole period of work and not only during the hours of overtime

2 It frequently results in a large amount of lost time In part this is to be attributed to the workers becoming exhausted and taking a rest, and also to sickness, noticeable chiefly amongst the older men and those of weak constitution

3 It imposes a very serious strain upon the management the executive staff, and the foremen, both on account of the actual length of the hours worked and the increased worry and anxiety to maintain output and quality of work. These men cannot take days off duty like the ordinary workers

4 It is liable to curtail unduly the period of rest and sleep available for those who have to travel long distances and from their work, a matter of special importance in the case of young persons

5 The fatigue entailed increases the temptation to men to indulge in the consumption of alcohol, they are too tired to eat, and seek a stimulant.

While, then, the Committee recognise that overtime must continue, they suggest that it should be subject to certain definite restrictions, which are dealt with under the headings of shifts, night work, spells and breaks, and holidays, with special consideration of the different conditions applicable to adult males, women and girls, and boys A final judgment is reserved until there has been an opportunity to observe the effects of restricted Sunday work, a reform which, it is hoped, will follow as a result of the recommendation put forward in the first Memorandum of the Committee

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THE DUTIES OF A SANITARY SECTION IN THE FIELD

Major Charles E Goddard, R A.M C (T), sends the following notes upon the duties of a Sanitary Section in the field —

From time to time we hear of the remarkable work that is being accomplished by different branches of the Sanitary Service, and it may therefore be considered an opportune moment to refer to the special work of a Sanitary Section. Though not actually a new unit in army establishments, a brief note as to its source, distribution, and special duties will afford many points of interest to the student of army sanitation

It will be remembered that at the outbreak of war, or soon afterwards, instructions were received from the War Office to increase the strength of the London (Territorial) Sanitary Companies by enrolling new companies with a view to the formation of sanitary sections for service in the field So successful was the response, and so efficient the training and equipping of the men, that every division of the army has been supplied with one of these sections Each of the sections has a personnel of 26 men (not including Army Service Corps men)—viz, 1 officer and 25 non commissioned officers and men As to the choice of officers, preference has always been given to medical men who are medical officers of health or who hold the Diploma in Public Health, or are bacteriologists, some are sanitary engineers and even architects A large percentage of the non commissioned officers are sanitary inspectors, and among the rank and file are found many with sanitary diplomas, plumbers, carpenters, schoolmasters, men of every walk of life, graduates in honours from Oxford, Cambridge, and other universities, solicitors, chemists, and representatives of all the professions and trades It will be seen that there is no difficulty in providing for each section a sufficient number of disinfectors, interpreters, carpenters, cooks, builders, and, in fact, supplying any man likely to be of special service in the field

The first 12 sections, with 12 lorries full of equipment, were sent out to France on Christmas Day, 1914, with the senior officer of the 2nd London Sanitary Company in command Each Division was then, and is now, supplied with one section. The Assistant Director of Medical Services of the Division is responsible for their work Such work includes the bathing of troops in thousands, disinfecting of the men for vermin, after enteric, cerebro spinal fever, and other infectious diseases, disinfection of all clothing and blankets, the purification of water, the draining of farms and billets, making or giving instruction for the erection of destructors or incinerators, ablution places, grease traps, urine pits, filters, fly traps, and, in fact, making every kind of installation, structure, or appliance that appertains to sanitation in the field It would be quite impossible to enter into details of all the good work done by these men, but reference might be made to the baths that were used at Ypres, for example, in February last Here, about two miles from the trenches, was a massive red building built and endowed by the late King of the Belgians as a school or reformatory It had been badly shelled, but the sanitary men soon found tubs and old baths and pumped water into the boilers in the kitchens and had excellent baths going in a few hours Everything was carried out with system and despatch, and many generals were taken to see the arrangements made for the bathing of the troops there None of those who saw these baths last February will forget the delight of the men at the sight of the hot baths and hot beef tea on coming out of the trenches, or their racy comments and high spirits in spite of all they were going through At last the enemy got the exact range of the building The position became untenable, and other baths had to be arranged for at breweries and other places further back This huge building and the whole city of Ypres has now been entirely destroyed

Sometimes the sections are sent to the trenches On one occasion one of the sections was asked to volunteer to help to collect the wounded who were lying outside the trenches in too great a number for the field ambulance to deal with Every member offered and went, gaining the thanks of the general through the Assistant Director of Medical Services the next day On another occasion they were required to take an anti gas apparatus to the trenches, but the enemy attack was so furious that night that the apparatus had to be abandoned, but the men remained to help the doctors treat the wounded They had a terrible experience for 36 hours, and one of their number was killed These sanitary men are not really expected to work in the firing line, but they are sometimes required to work in the reserve trenches, and may occasionally get wounded whilst engaged on purely sanitary work

These are only a few things which come to one's personal knowledge, but I have heard the men of the Sanitary Sections spoken of on all sides as ever desirous of helping their fighting brothers in every way possible The Commander in Chief, in his last two despatches, has recognised their value by mentioning no less than 13 of their officers and quite a number of their men It is good to think that there is such a body of expert workers who can assist the Royal Army Medical Corps officers in watching over the health and sanitation of the soldiers

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INVALID PRISONERS OF WAR IN SWITZERLAND —French and German prisoners of war continue to arrive at various Swiss health resorts 100 French tuberculous cases have reached Leysin and 100 German have been received at Davos Prisoners suffering from alimentary and nervous disorders are being sent to the more central parts of Switzerland—the French to Yverdon, Macolin and Chaumont, the Germans to Vitznau, Brunnen, and Gersau In spite of numerous rumours to the contrary, no invalided British prisoners have reached Switzerland

WAR AND EUGENICS —At a meeting of the Royal Statistical Society held on Feb 15th Major Leonard Darwin, Sc D, read a paper entitled "On the Statistical Enquiries needed after the War in connexion with Eugenics' He began by pointing out that though it was difficult to estimate the casualties in this war ours might now be in number as high as 6¼ per cent., and Germany's possibly between 20 and 30 per cent, of the number of the fighting men available. But this total loss of progeny due to the war would tell nothing as to racial effects, which would depend on whether those killed were above or below the average in inborn qualities The classes sifted out before the fighting force entered the fighting line consisted of the shirkers, the rejected on enlistment, the men turned out of the service or kept at home because of incapacity, and those invalided from abroad, on the other hand, many were kept at home because of the qualities of their work. Balancing these conflicting considerations, the conclusion arrived at was that war unquestionably killed off the better types, and was therefore highly dysgenic. The active causes of the damage would not, moreover, cease with the war, because the birth rates of the higher types would continue to be adversely affected It followed also that the racial damage would be at its worst when peace was declared, and the checking of the multiplication of the unfit would never be more needed than then Major Darwin looked at all these matters as part of the whole great question of racial advance or decline on which the fate of nations so largely depended, and he was actuated by the fear that in the excitement of party strife all eugenic reform would be pushed on one side to make room for topics of more immediate interest, in which case there would be grave danger of our country slowly undergoing racial degradation

DIARY OF A NURSING SISTER —A correspondent sends us the following interesting comments on a book entitled "Diary of a Nursing Sister on the Western Front, 1914–1915," which was briefly noticed in THE LANCET of Jan. 8th —

"The diary has evidently been printed much as it was written from day to day, and the result is a most telling picture of life on the ambulance trains carrying the wounded from the front to the base hospitals It is interesting to note that the *canards* that in the early days of the war caused so much excitement in England, such as the arrival of train-loads of Russians from Archangel, were caught up and believed in by the workers at the front with the same faith and trust

The first ambulance train, to which this nursing sister was attached, went up to Braisne in October, 1914, there she had her first experience of being under fire, for the shells came not only over the village but also over the train itself, and several of the wounded and of the medical staff had a very narrow escape Towards the end of October the ambulance trains were flooded with thousands of wounded from the first battle of Ypres, and the difficulty of taking in two or three hundred serious cases in a few hours is dealt with in the most vivid manner, rifles and pick handles being used for splints by the light of flashing guns and burning houses The want of *chauffage* on board their ambulance trains in the early part of the winter was very distressing, and Christmas was spent in cold and discomfort, yet there is continual praise of the wounded 'Tommies' who bore their pain and helplessness cheerfully, knowing that all that was possible was being done for them

With the spring the author catches glimpses from the train of cowslips and violets by the wayside, and mentions how the song of the lark and blackbird thrilled the hearts of the nursing sisters even within sound of the guns But the spring brought also Neuve Chapelle, and a few lines from the entry of March 25th are worth quoting 'There was a day or two after Neuve Chapelle when the number of wounded overflowed the possibilities of 'collection,' the stretcher bearers were all hit and the stretchers were all used, and there were not enough medical officers to cope with the numbers and if you wanted to live you had to walk or crawl, or stay behind and die'

In May the first Royal Army Medical Corps' barges were ready, to the great relief of the lung and abdomen cases, which were so distressed by the jolting of the trains, the barges were only just in time, for on May 10th. every field ambulance barge, clearing hospital, and train were blocked with the wounded from Festubert, and while hard put to it to deal with this multitude of cases the Royal Army Medical Corps workers hear the reinforcements marching by singing rag time through the pouring rain.

From these pages is well seen the contrast between the chaos and confusion of early days to the order and discipline of a few months later, when the Royal Army Medical Corps had coped with difficulties which at first had seemed insuperable This diary probably represents the experience of many a nursing sister in France whose war notes have not been published, it is, therefore wisely anonymous, picturing, as it does the life at the front of some of our noblest workers in the field."

OBITUARY OF THE WAR

OSCAR GLADSTONE MAGINNESS, M R C S ENG, L R C P LOND,

LIEUTENANT, ROYAL ARMY MEDICAL CORPS.

Lieutenant O G Maginness medical officer, Brentwood Asylum, who was killed in action near Ypres on Dec 15th, 1915, at the age of 26 years, was the second son of Mr E J Maginness, M V O, constructive manager H M Dockyard, Chatham He was educated at King's School, Rochester, and the Grammar School Portsmouth, proceeding, from the latter to St Bartholomew's Hospital in 1908, where he received his medical training, becoming qualified in October, 1913 After leaving St Bartholomew's he was appointed medical officer at Brentwood Asylum, resigning this position to take a commission in the R.A.M C in March, 1915 He was killed by a German shell in the trenches His Colonel writes of him, "He made himself most popular with both officers and men, no trouble was too great for him to undertake, and his care of and attention to the sick were unremitting He could have remained in safety at a base hospital, but volunteered to come back again to do duty with the troops in the firing line" Lieutenant Maginness was amongst those mentioned in Lord French's last despatches

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND—At a meeting of Comitia of the Royal College of Physicians of London on Jan 27th and of the Council of the Royal College of Surgeons on Feb 10th, diplomas of L R C P and M R C S were respectively conferred upon the following 80 candidates (including nine ladies) who have passed the Final Examination in medicine, surgery, and midwifery of the Conjoint Board and have complied with the by-laws —

*Arthur Wilfrid Adams Bristol University John Andrew, St. Bartholomew's Hospital, Mary Neville Andrews, Royal Free Hospital George Frederick Vernon Anson, Cambridge University and St Thomas's Hospital, Kenneth Leslie Bates, Guy's Hospital Alexander William Charles Bennett St Thomas's Hospital Thomas Alexander Palmer Benbow Jefferson College Philadelphia Kalyanpur Harihar Bhat, Madras and Charing Cross Hospital John Tyldesley Bleasdell Cambridge and Leeds Universities Edgar Scott Bowes, Guy's Hospital Isabel Florence Buckle Royal Free Hospital Alan Osborne Courtis, Cambridge University and St. Bartholomew's Hospital Douglas Crellin Cambridge University and St. Bartholomew's Hospital Raghunath Ganesh Dani University College Hospital Lionel Meredith Davies, Oxford University and St. Thomas's Hospital Llewelyn ap Ivan Davies, University College Hospital Patrick Arthur Dargan, St Mary's and St. George's Hospitals Herbert Mervyn Drake St Thomas's Hospital Alan Nigel Drury Cambridge University and St. Thomas's Hospital Charles Yarrow Eccles, St Thomas's Hospital; Mikhail Elias Cairo and St. Mary's Hospital, †Henry Hawes Elliot, Durham University and Guy's Hospital Charles Arthur Lovatt Evans University College Hospital David John Evans University College, Cardiff, and Middlesex Hospital Murray Dudley Evans, London Hospital William Jones Evans, University College, Cardiff, and University College Hospital, Cyril Gould University College Hospital Hugh Ernest Griffiths University College Cardiff and St. Bartholomew's Hospital Alfred Barnes Gunasekara, Ceylon Medical College and King's College Hospital Carl Gustave Waldemar Hahr St George's Hospital Alfred Edward Hamlin Madras University and St Bartholomew's Hospital William Llewellyn Aplin Harrison St. Mary's Hospital George Edwin Heath, St. Bartholomew's Hospital, Valentine Robert Hirsch Guy's Hospital Edwin Lancelot Hopkins, London Hospital Helen Ingleby Royal Free and St George's Hospitals Vincent Coram James Middlesex Hospital James Gaymer Jones Guy's Hospital Leslie William Jones, Cambridge University and London Hospital Ivy Keess, Bombay University and Royal Free Hospital Charles Edward Kindersley Cambridge University and St Bartholomew's Hospital, Mohamed Elwan Abdel Latif Cairo and Middlesex Hospital Herman Lewis London Hospital Kenneth Thomas Limbery St Thomas's Hospital George Alexander Sheridan Madgwick London Hospital Rodney Honor Maingot St. Bartholomew's Hospital Labib Abdul Malik St. Mary's Hospital, Frederick Wyndham Maunsell, Cambridge University and St Mary's Hospital Gladys Mary Mill Smith, Royal Free Hospital Robert Davies Moyle Johns Hopkins University and Charing Cross Hospital Nara Ratnam Nalliah, Ceylon Medical College and London Hospital Hubert Musgrave Oddy Oxford University and St Thomas's Hospital May Olivera, Bombay University and Royal Free Hospital, Edith Winifred Paul Calcutta and Royal Free Hospital Percy Reginald O Rourke Phillips, Cambridge University and St Thomas's Hospital Alfred Cleveland Pickett Cambridge University and St. Thomas's Hospital Douglas Sherrin Pracy St Bartholomew's Hospital David Rees, University College Cardiff and University College Hospital Edmund Douglas Richardson, Charing Cross Hospital Miles Kenneth Robertson Cambridge University and S Bartholomew's Hospital, George Cuthbert Robinson, St. Thomas's Hospital John Thomas Samuel, University College Cardiff and University College Hospital †Frederick Joshua Page Saunders, Cambridge University and St. Thomas's Hospital Ronald James Scarr Manchester University Clement Perronet Sells Oxford University and Middlesex Hospital George Binford Sellwood, Cambridge University and St. George's Hospital Edith Annie Shaw and Elsie Stansfeld Royal Free Hospital Arthur Sunderland Charing Cross Hospital Godfrey Trehane Symons and Henry John Hugh Symons, King's College Hospital Aly Heidar Taymour Guy's Hospital William Henry Thomas University College Cardiff and St Mary's Hospital John Aylmer Tippet St. Thomas's Hospital Richard Stanley Topham Leeds University, Hubert Methley von Mengershausen Manchester University; Harold Joseph Wallace University College Hospital, Harold Arthur Whyte-Venables Cambridge University and St George's Hospital Harry George Everard Williams Cambridge University and St Bartholomew's Hospital Alban Wilson, University College Hospital and George Cuthbert Nelson Younger Middlesex Hospital.

* L R C P not yet conferred † M R C S conferred previously

Diplomas in Public Health were also conferred, conjointly, upon the following four candidates who have passed the requisite examinations —

Ratonjee Dinshaw Dalal Bombay University St Bartholomew's and University College Hospitals Philip Hamill St. Bartholomew's Hospital William John Hart Oxford University St Thomas's Hospital and University College and Horace Richard Wilson, King's College Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND—An ordinary meeting of the Council was held on Feb. 10th, Sir W Watson Cheyne, the President being in the chair The secretary reported the death on Feb 1st of Lieutenant-Colonel James Stanley Newton Boyd, R A.M.C (T), member of the Council A vote of condolence with his relatives was passed The President stated that the vacancy occasioned by the death of Colonel Stanley Boyd would be filled at the annual meeting of the Fellows in July It was resolved to issue diplomas of Membership to 79 successful candidates It was resolved also to issue jointly with the Royal College of Physicians of London Diplomas in Public Health to four successful candidates. A letter was read from the secretary of the Central Midwives Board reporting that the term of office of Mr C H Golding Bird as the representative of the College on that Board will expire on March 31st, it was resolved to reappoint Mr Golding Bird as the representative of the College

ROYAL INFIRMARY AND ASYLUM, ABERDEEN—The annual general meeting of the corporation of the Royal Infirmary and Lunatic Asylum of Aberdeen was held in the infirmary buildings on Feb 9th when the annual reports were submitted The report for the Royal Infirmary states that during the year 3141 in-patients were treated, of whom 2430 were relieved, 267 were unrelieved, 233 died, and 211 remained in hospital at Dec 31st, 1915 In addition to these, 15,250 received advice and treatment in the various out-patient departments, giving a total of 18,391 for the year, the in patients being 101 fewer and the out-patients 36 more than in the previous year The average number of days for each patient in hospital was 25 The average daily number of in patients was 217 The ordinary expenditure was less by £460 than in 1914 This decrease was largely attributable to a decrease on surgical, dispensary, and domestic expenses, which more than counterbalanced the increased cost of provisions The average cost per occupied bed based upon the total ordinary expenditure, less the cost of out-patients, reckoned at 1s each, was £67 19s 7d, and of each in patient treated £4 13s 11d A welcome addition to the endowment fund during the year was the gift of securities bringing in £373 per annum by Sir Alexander McRobert, of Cawnpore, and among other sums towards the deficit on the accounts of 1914 a sum of over £1278 has been received as the proceeds of a gala day held in Aberdeen No change has taken place during the year in the honorary medical and surgical staff, all the members of which are now on military service Those of them who are in Aberdeen are still able to devote part of their time to the work of the hospital During the year 231 patients were treated in the convalescent hospital. The average number of patients in the hospital daily was 21, and the average length of stay was 33 days The income was £552 in round figures and the expenditure was £798 The report for the Aberdeen Royal Asylum states that in consequence of the great advance in the cost of commodities of all kinds the rate for pauper patients was fixed at £38 2s, inclusive of clothing, for the year, from May 15th, 1915, being an increase of £6 2s over the previous rate, which has been in force since 1892 The minimum rate for private patients has also been raised from £30 to £36 per annum, exclusive of clothing and other extras. The directors fear that if prices continue to rise a further increase in the rates will be necessary

The Oxford Ophthalmological Congress will assemble at Keble College, Oxford, on the evening of Wednesday, July 12th and the meeting will be held on Thursday and Friday, 13th and 14th

The Nightingale Memorial in St Paul's Cathedral —On Feb 14th the Queen unveiled the memorial to Florence Nightingale, which has been placed in the crypt of St Paul's Cathedral. The memorial represents the Lady of the Lamp holding a cup to the lips of a wounded soldier, and has been carved on white marble in low relief by Mr Arthur G. Walker, who also executed the fine statue erected some months ago in Waterloo-place Above the plaque, which is enclosed in an alabaster frame, are the words "Blessed are the merciful," and below, "Florence Nightingale, O M Born May 12th, 1820 Died August 13th, 1910"

Union of Medical Practitioners (Leicester Sub-division) and Leicester Public Medical Service —The annual meeting of this union was held on Feb 11th It will be remembered that Leicester adopted a comprehensive scheme including practically the whole of the medical profession in the district, of whom about three-fourths are on the panel for State insured persons and are "acting members" of the Public Medical Service This strong position has enabled the union to take uniform action in the interests of medical men, especially in the directions of effecting insurances and of collecting debts The union has recently devoted much consideration to arrangements for giving medical attendance to patients of doctors engaged on military service, and a scheme as follows was adopted by the annual meeting, and will come into force on Feb 21st —

> During their own doctor's absence private patients shall go to the doctor of their choice who shall send out the account collect the money and return half of the fees to the doctor on service whose patients they are. Nearly 40 doctors in Leicester have expressed their willingness to accept contract patients of doctors who are away on the following conditions. A distributer has been appointed with power to arrange for sub-distributers State-insured and other contract patients requiring medical attendance will be given a card of authorisation by the distributer (who will retain a counterfoil) to take to a doctor who has consented to do this work If he accepts the patient he affixes a gummed slip, bearing his name, address, and consulting hours, to the patient's medical ticket or Public Medical Service card and retains the authorisation card If the doctor cannot accept the patient he returns the authorisation card and refers the patient again to the distributer Patients accepted will remain under the care of the doctor accepting them until the end of 1916, if the war does not end before When any doctor has accepted such a number as he deems sufficient he will notify the distributer to that effect Payment to be made at an agreed *per capita* rate for all persons requiring medical treatment and accepted by a doctor

Notwithstanding the war the year just ended has been a very successful one for the Leicester Public Medical Service. The subscribers (chiefly women and children) numbered about 43 500 The principal Friendly Societies have their own dispensaries, and pay certain rates per annum to the Public Medical Service for attendance on their uninsured members and their wives and children (who are included in the above total of 43 500) and in addition for about 12,000 of their members who are State insured About 1100 dependants of sailors and soldiers were, by an arrangement with the War Relief Committee, given medical treatment through the service, at no initial cost to themselves The number of school cases treated was vision 508, nose, ear, and throat 437, teeth, 699 By arrangement with the guardians the necessary medicines for the outdoor sick poor of Leicester were dispensed by the Public Medical Service The sum collected from subscribers to the service was £8558 Payments made by the Friendly Societies, and sums received from guardians and other sources, increased the total income for the year to considerably more than £15,000 After defraying the necessary establishment charges, the sum of £11 430 was distributed amongst the medical officers and specialists for attendance on subscribers The following balances to the credit of the service were brought forward to the current year general account £243, furniture and renovation fund, £145, guarantee fund, £367

Royal Maternity Charity of London —The object of this charity is to provide midwives and medical attendance *gratis* to poor married women in their own homes who do not receive the maternity benefit under the Insurance Act. The statistical report for the year 1915, which has just been issued is a record of needful work. The number of cases attended was 1045 and the number of infants born 1066, of whom 540 were males and 526 females There were 21 cases of twins, stillbirths numbered 36, and the age of the mothers varied from 18 to 45 Out of 1045 cases attended by the midwives only one death is reported, that being a case of puerperal eclampsia It is interesting to note that 665 wives of soldiers and sailors have been helped by the charity after their cases had been inquired into Donations and subscriptions should be sent to the offices of the Royal Maternity Charity, 31, Finsbury square, E C

Presentation to a Medical Man — At the Castle, Exeter recently at the distribution of certificates to members of the Devon 1 Men's Voluntary Aid Detachment, Sir E. C Wills, the High Sheriff, presented Dr Arthur Laurence Candler with the certificate of life membership of the Red Cross Society in recognition of his services to the Voluntary Aid Detachment work in Devonshire Miss Buller, on behalf of the officers and men of the "Devon 1," presented Dr Candler with an address bearing the signatures of all the members, and a case of surgical instruments in appreciation of his services as honorary lecturer

The late Mr H. G Shorter — One of the best known of the medical men of Hastings in his day, Mr Henry Goldsworthy Shorter, died there on Feb 4th at the age of 73 He had retired from practice for some time, but for many years was police surgeon for the borough, and besides holding other appointments had a large private practice. Studying at Guy's Hospital he became M.R.C S. in 1867 and took the L.S.A diploma in the following year From 1869 to 1871 he was a surgeon in the service of the P and O Co, and went many voyages to India and China. He finally settled at Hastings

Poor-law Medical Officers' Association of England and Wales —At a recent meeting of the council of this association the honorary secretary reported that he had received a letter from Dr A Cox, medical secretary of the British Medical Association who said that the memorandum of the Poor law Medical Officers' Association had been considered and approved and that he had written to the secretary of the Departmental Committee of the Local Government Board intimating that it would be supported by his Association Various letters had been received from country members complaining of the increased cost of drugs and the difficulty experienced in getting boards of guardians to make extra payments to meet this expense, which was becoming very serious Some had urged that as the guardians were bound to pay for "expensive medicines," many of the drugs in common use might reasonably be considered to come under this category, and they were bound to defray their cost The honorary secretary said this was quite true. Under date April 12th, 1885, a circular had been issued by the Local Government Board imposing this duty on all boards of guardians in England and Wales The council thought that this matter should be further considered Another member had written, pointing out that the guardians were paying him a single salary for two Poor law appointments He was both a district medical officer and workhouse medical officer, but his board regarded the *appointments as conjoint* The honorary secretary said that this was quite illegal Under the Poor-law Orders the appointments were regarded as separate, and it would be interesting to know how the board of guardians had ever been permitted to make the arrangement complained of The council were of opinion that the Local Government Board should be approached and inquiries made It was very important that the two appointments should be kept distinct It might often happen that a practitioner holding both might desire to resign one and retain the other Under the arrangement complained of this might be impossible There was some discussion on the proposed federation of sectional Poor law associations, as a meeting is shortly to be held at Norfolk House, Strand, which will be attended by delegates from such associations, and the representatives of Poor law medical officers desire to be instructed as to how they should vote After some discussion it was decided to adhere to the resolution passed at the last council meeting, that in the opinion of the association the *matter ought to be* deferred till after the war

THE LATE DR GUY BEATTY —The death occurred on Feb 7th, in a nursing home in Belfast, of Dr Guy Beatty, a native of Tempo, co Fermanagh A son of a Newry *man, he studied in Edinburgh and graduated* M B of the university there in 1894 He served in the South African War being civil surgeon of the South African Field Force, and for the past eight years he was in the West African Medical Service *On the outbreak of the present war he was directed to proceed* to the Cameroons, where he served during the military operations there until August last, when he was *invalided* home

ROYAL MEDICAL BENEVOLENT FUND GUILD —*The annual general meeting of the guild* will be held on Monday, Feb 21st, at 3 30 o'clock, at the Mansion House, the Lord Mayor of London having consented to preside The speakers will include Sir *Arthur May* (Director General of the Navy) Sir John Tweedy, Mrs Scharlieb, M D , and *Dr Louisa Garrett-Anderson*

PAYING PATIENTS AT THE BRIDGWATER (SOMERSET) HOSPITAL —At a special meeting of the subscribers of the Bridgwater Hospital it was resolved —

> That patients should be admitted to the public wards by any medical man in the town and districts subject to the approval of the committee on the medical man's recommendation at a minimum charge of 30*s* weekly and to the private ward for £2 2*s* weekly and may be attended by his own medical man or one of the honorary staff on paying his usual or arranged fees for such attendance

THE LATE DR G H CHARLESWORTH, J P —Dr George Henry Charlesworth, who died recently at his residence at Putney, was 57 years of age. *He studied* medicine at *Charing Cross* and King's College Hospitals, qualifying in 1884, and two years later becoming a Member of the Royal College of Surgeons of England He was also a medical graduate of Brussels and held the diploma of Public Health of the English Conjoint Board Dr Charlesworth was a district medical officer of the London County Council and honorary consulting medical officer *to the* Wandsworth *Provident* Dispensary

THE BATHS OF BATH —*Field* Marshal Viscount French will open the reconstructed Royal suite of baths at Bath on Wednesday next, Feb 23rd.

Mr James Albert Bright, M R C S , L S A , who died last week at Norwood, formerly held the office of mayor of Glastonbury for *three years*

BOOKS, ETC , RECEIVED

ADLARD AND SON Bartholomew Press E.C
The City of Din : A Tirade against Noise By Dan McKenzie M D Glasg F R C S Edin Price 3*s* 6*d.* net

BAILLIÈRE TINDALL, AND COX, London
A Manual of Surgical Anæsthesia. By Bellamy Gardner M R C S , L R.C P Lond Second edition Price 7*s* 6*d* net.
Sleeping Sickness : A Record of Four Years War against the Island of Principe By B E Bruto da Costa and others *Translated by* J A. Wyllie, F R G S Lieutenant-Colonel Indian Army (retd) *Price* 7*s* 6*d.* net

CHURCHILL, J AND A *London.*
A Code of Rules for the Prevention of Infectious Diseases in Schools Issued by the Medical *Officers of Schools* Association Seventh edition Price 1*s* net

LAURIE, T WERNER, London
The Soul of a Crown Prince By T W H. Crosland. Price 1*s* net

Appointments.

Successful applicants for vacancies Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office directed to the Sub-Editor not later than 9 o clock on the Thursday morning of each week such information for gratuitous publication*

ALLAN E L R C P & S Edin L F P S Glasg has been appointed Certifying Surgeon under the Factory and Workshop Acts *for the* Barrow in Furness District of the county of Lancaster

ANWYL-DAVIES T M R C S L.R C P Lond has been appointed Casualty Officer and Resident Anæsthetist at St Thomas's Hospital.

ARMSTRONG HUBERT M.D Vict. and Liverp *Captain, R.A.M C (T)* has been appointed Honorary Physician to the Liverpool Infirmary for Children

BHATIA, S L M.R C S L.R C P Lond has been appointed Casualty Officer and Resident *Anæsthetist at St Thomas's Hospital.*

BLUETT D C has been appointed Casualty Officer at St Thomas's Hospital

BRADLEY F M B Ch.B N U I has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Fintona District of the county of Tyrone

CELESTIN L A., has been appointed Casualty Officer at St Thomas's Hospital

DAVIES L. M M R C S L R C P Lond has been appointed Casualty Officer and Resident Anæsthetist at St Thomas's Hospital

HARRIS, J C N has been appointed Resident House Surgeon at St Thomas's Hospital

HENSLEY E H V has been appointed Resident House Surgeon at *St. Thomas's Hospital.*

HIGGINS F E M.R.C S L R C P Lond. has been appointed Senior *House Physician at St Thomas's Hospital*

HYMAN C H , has been appointed Resident House Surgeon at *St Thomas's* Hospital

LOVE, R J L R.C P & S Edin L R F P S Glasg has been appointed *Certifying* Surgeon under the Factory and Workshop Acts for the Staplehurst District of the county of Kent

MARRIOTT W , has been appointed Resident House Physician at St Thomas's Hospital

NAIRNE, N S , has been appointed Ophthalmic House Surgeon at St Thomas's Hospital

ODDY H M M.B B Ch Oxon M R.C S L.R C P Lond , has been appointed Resident *House Physician* at St. Thomas's Hospital

PHILLIPS P R O'R M R C S L R.C P Lond has been appointed Casualty Officer and Resident Anæsthetist at *St Thomas's Hospital*

ROMANIS W H C, M B B C Cantab. F R C S Eng has been appointed *House Surgeon* and *Resident Anæsthetist* at St *Thomas's Hospital*

SMITH J FOREST has been appointed *Resident House Physician* at St. Thomas's Hospital

STORMER, H G has been appointed *Resident House Surgeon* at St. Thomas's Hospital

VEY F H has been appointed Resident House *Physician* at St Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)
When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

ABERGAVENNY MONMOUTH COUNTY ASYLUM —Temporary Assistant Medical Officer Salary £7 7*s* per week with board apartments and attendance

BRIDGWATER HOSPITAL —House Surgeon unmarried Salary at rate of £125 per annum with board, lodging and washing

BRISTOL ROYAL INFIRMARY —House Physicians and House Surgeons Salary at rate of £120 per annum with board, apartments and laundry

CAMBRIDGESHIRE ASYLUM Fulbourn near Cambridge —Junior Assistant Medical Officer unmarried. Salary £200 per annum with board lodging washing and attendance

CHARING CROSS HOSPITAL.—Medical and Surgical Registrar

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry —Third Resident Salary £175 per annum with *rooms* board, laundry and attendance.

EVELINA HOSPITAL FOR SICK *CHILDREN* Southwark S E —House Physician and House Surgeon Salary at rate of £160 per annum, with board residence and washing

GLASGOW ROYAL HOSPITAL FOR SICK CHILDREN —Temporary Medical Superintendent or Senior Resident Medical Officer *Also Resident* House Physician and Two Resident House Surgeons for six months Each with salary board and laundry

GREENWICH UNION INFIRMARY AND WORKHOUSE.—*Assistant Medical* Officer unmarried Salary £175 per annum with *apartments rations*, and washing

GUILDFORD ROYAL SURREY COUNTY HOSPITAL.—House Surgeon Salary £150 per annum with board residence and laundry

HAMPSTEAD GENERAL AND NORTH WEST LONDON HOSPITAL, Haverstock Hill N W —Three Anæsthetists Salary £25 per annum

HOSPITAL FOR EPILEPSY AND PARALYSIS Maida Vale W —Second Anæsthetist.

HUDDERSFIELD ROYAL INFIRMARY —Junior House Surgeon. Salary £100 per annum with board residence and laundry

LEEDS PUBLIC DISPENSARY —Female Resident Medical Officer Salary £130 per annum with board residence and laundry

MANCHESTER *BAGULEY* SANATORIUM FOR TREATMENT OF TUBERCULOSIS —Second Assistant Medical Officer unmarried Salary £250 per annum with board and residence

MANCHESTER HULME *DISPENSARY* Dale street Stretford road —House Surgeon Salary £250 per annum with apartments attendance coal and gas

NEW HOSPITAL FOR WOMEN Euston-road N W—Female Assistant Anæsthetists

PORTSMOUTH ROYAL HOSPITAL.—Two Female House Surgeons for six months. Salary £150 per annum with residence board &c.

QUEEN CHARLOTTE'S LYING IN HOSPITAL, Marylebone-road, N W—Assistant Resident Medical Officer (female) for four months Salary at the rate of £60 per annum.

QUEEN'S HOSPITAL FOR CHILDREN Hackney road, Bethnal Green E—House Surgeons for six months Salary £100 per annum with board, residence and washing

ROYAL EYE HOSPITAL, St. George's Circus, Southwark S.E.—House Surgeon. Salary at rate of £150 per annum with board and residence.

ROYAL FREE HOSPITAL, Gray's Inn road W C—Radiographer and Medical Electrician. Salary £100 per annum.

ST PETER'S HOSPITAL FOR STONE, &c. Henrietta street Covent Garden W C—Junior House Surgeon for six months Salary at rate of £75 per annum, with board lodging and washing

SALFORD POOR LAW UNION INFIRMARY—Resident Assistant Medical Officer, unmarried. Salary £300 per annum with apartments attendance, and rations

SALFORD ROYAL HOSPITAL.—House Physician and House Surgeon Salary at rate of £250 and £200 per annum respectively with board and residence

SAMARITAN FREE HOSPITAL, Marylebone-road N W—Honorary Dental Surgeon

SHEFFIELD ROYAL INFIRMARY—House Surgeon. Salary £100 per annum, with board and residence

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant House Surgeon, unmarried. Salary £120 per annum, with residence board, and laundry

WESTERN GENERAL DISPENSARY Marylebone-road N W—Resident House Surgeon.

WEST HAM AND EASTERN GENERAL HOSPITAL.—House Physician and House Surgeon

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY—House Surgeon. Salary £150 per annum with apartments board, and laundry

THE Chief Inspector of Factories, Home Office London S W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Bangor in the county of Carnarvon and at Abercrave in the county of Brecon.

Births, Marriages, and Deaths.

BIRTHS

BAKER.—On Feb 13th, at Torfield House, Hastings, Sussex the wife of Dr A. E Baker of a daughter

FRASER.—On Feb. 12th at Shooter's Hill road Blackheath, to Dr and Mrs A. Fraser a son

LEDINGHAM—On Feb 13th, at Yeoveney Links road Epsom the wife of Lieutenant-Colonel J C G Ledingham R.A.M C., of a son

MOORHEAD—On Feb 7th at South Godstone, Surrey the wife of R. L. Moorhead, M.B., C.M Edin. of a son.

PLATTS.—On Feb 12th, at East Sheen-avenue, S W to the wife of Sydney Goodman Platts, M B. Cantab a daughter

SUTTON—On Feb 12th, at Clarendon road Southsea, the wife of Captain E A. Sutton R.A.M C., of a son (stillborn)

WOOLLATT—On Feb. 7th at High Oak Lodge, Ware the wife of P C Woollatt M.D Brux. Temporary Surgeon Royal Navy of a daughter

MARRIAGES

BROWNING—ASHLEY SMITH.—On Feb 3rd at St George's Hart street, London Harold Gordon Browning M.B B Ch Birm., of Pershore, Worcestershire to Violet elder adopted daughter of Dr and Mrs Ashley Smith of Codsall Staffordshire

PASCO—ROBY—On Feb 12th at St Matthew's Church, Upper Clapton Bernard Charles William Pasco, M.R C.S L.R.C.P (Lieutenant R.A.M C) to Annie daughter of Mr and Mrs George W Roby of Stamford hill N

PEARSON—EARL.—On Feb. 14th, at St Augustine's, Norwich Dr S V Pearson of Mundesley to May Elizabeth youngest daughter of Mr and Mrs Earl of Norwich

TURNBULL—BAKER.—On Feb 12th at St Mary Abbot's, Kensington Hubert Maitland Turnbull D M., Director of the Pathological Institute of the London Hospital to Catherine Nairne Arnold younger daughter of Mr and Mrs. Frederick Arnold Baker

DEATHS

ALEXANDER.—On Feb 14th at Blackwall Lodge Halifax, Reginald Gervase Alexander M D Edin J.P in his 69th year

LAKIN—On Feb 10th at Leicester Charles Lakin L.R.C P Edin aged 67 years

MONCKTON—On Feb 4th at East Sheen William Monckton, M.R.C S L.R.C P Edin late of Portishead Somerset and Rugeley Staffordshire

SAUNDERS—On Feb 11th at Staines Lodge Staines Frederick Herbert Saunders M D Edin &c aged 67 years

STOKES—On Feb 10th at Latchmere Ham suddenly as the result of shell shock in France Lieutenant Colonel John Wilfred Stokes R.A.M C (T F) 3rd West Riding Field Ambulance aged 43 years

TURNER.—On Feb 15th 1916 at 6 Eton terrace Edinburgh after a short illness, Sir William Turner K C B F R.S Principal and Vice-Chancellor of the University of Edinburgh in his 85th year (No flowers by special request)

WILLIAMS—On Feb. 12th at Oswestry T Hammond Williams L.R C P Edin L F P S Glasg. aged 56 years

WRIGHT—On Jan 31st at Haddenham Frederick William Wright M R.C S L.S A. Lond aged 75 years

N.B.—A fee of [illegible] is charged for the insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents.

VITAL STATISTICS, PUBLIC HEALTH, AND CLIMATE OF UGANDA

ACCORDING to the Blue-book of Uganda the population of the Protectorate in March, 1915, was estimated at a total of 2,927,494 In this total are included 903 Europeans, of whom 269 are females, and 3560 Asiatics, comprising 2859 males and 701 females The native population in those areas where reliable estimates are obtainable has been returned at 1 267,771 males and 1,505 260 females, while that in the unadministered regions of the Northern and Eastern Provinces is estimated at a further approximate figure of 150,000 Complete statistics of native births and deaths are not available throughout the Protectorate, but returns rendered by native chiefs from administered areas, comprising almost half the Protectorate, show that 33,100 births were registered during the year 1914 in the proportion of 23 4 per 1000 of living persons in the districts concerned The registered deaths in the same area numbered 29,697, or 20·5 per 1000 of its population In comparison with 1913 the birth rate shows a decrease of 1 53 per mille and the death rate a decrease of 1 91 per mille 2160 native marriages were contracted during the year from a total estimated by the Census of 1911, of approximately 431,301 adherents to Christianity. Returns from Government hospitals and dispensaries show a decrease in the number of cases treated from 112,624 to 90,730 The reduced total is due to the transfer of ten medical officers and six members of the subordinate staff from the medical and sanitary services of the Protectorate to military employment and to the consequent performance of routine duties by a skeleton staff

The health of the European officials has been satisfactory The total number resident during the year was 298, amongst whom there were 3 deaths and 582 cases of illness Of the 582 cases, 381 were placed off duty for treatment, of the admissions to hospital, 186 were due to malaria and 6 to blackwater fever The general European population, inclusive of officials, was 903 The principal diseases occurring among them were malaria, blackwater fever, enteric, and diseases of the digestive system

An epidemic of enteric fever, which assumed for a time alarming features, occurred towards the end of 1914 There is evidence to show that this was introduced from East Africa, the initial cases occurring among travellers on the lake steamers from that Protectorate, who developed the disease in a few days after crossing Lake Victoria There were 21 cases in all, but the epidemic declined rapidly

The diseases of natives which call for special attention are plague, sleeping sickness spirillum fever leprosy, small pox, and venereal diseases Plague prevails mainly in the Eastern Province, although cases have occurred in the Buganda Province and in the districts west of the Nile. The disease has spread in the Lango district of the Eastern Province, but its incidence elsewhere, where organisation for its prevention is in force, has diminished The work of native inspectors appointed to control the disease and to prevent its concealment has been satisfactory, and rewards offered for the destruction of rats produced in one district surprising results The diminution of the number of cases of sleeping sickness continues satisfactory and is believed to be general The discovery of a new species of trypanosome in the cattle of Bunyoro gave rise to apprehension of the possibility of its transmission to human beings The supposition was based on its morphological resemblance to a trypanosome pathogenic to man in Rhodesia but research has resulted in the opinion that the fear was groundless, and proposals for costly measures, which had been contemplated, to eradicate Glossina morsitans, the carrier of this parasite, were abandoned. The case incidence of spirillum fever has decreased materially with improved preventive measures adopted against the spirillum tick Leprosy is scattered over the Protectorate Attempts have been made from time to time to segregate lepers in special settlements under supervision of local chiefs but have proved unsatisfactory, and later efforts to segregate them in the villages have achieved little success Lack of funds in the meantime hinders any comprehensive scheme of segregation, but there is no reason to suppose that the disease is increasing Several local outbreaks of small pox occurred, in particular in the Eastern Province, where the disease became epidemic towards the end of the year The number of vaccinations effected was 13,657

The climate varies considerably in different areas of the Protectorate In the Nile Valley, 2000 feet above sea level, the conditions are tropical and more unhealthy than in the higher lying lands between Lake Victoria and Lake Albert The most pleasant climate in Uganda is found in the vicinity of Lake Victoria and in the districts of the Western Province, where the altitude exceeds 5000 feet above the sea in certain areas and where conditions of living approach those of the temperate zones The average rainfall for the calendar year 1914 at 32 recording stations where regular observations were taken was 52 76 inches. Two yearly rainy seasons occur throughout the Protectorate, but without great regularity as to incidence or duration The heavy rains fall between April and the middle of June, a more protracted period occurring between September and mid December Local variation of these wet seasons is considerable, and marked differences in rainfall are met with in places closely adjacent to each other

A NEW ANTISEPTIC

ATTENTION has been directed recently to the value of para toluene sodium sulpho-chloramide as an antiseptic by the publication of the results of investigations as to its use for infected wounds, &c The new antiseptic has been very promptly prepared by Messrs Burroughs, Wellcome and Co, and compressed products issued in two strengths—8 75 and 87 5 grains. Chloramine-T was at first suggested as a convenient short name for this antiseptic, but as the word chloramine has for a number of years been used for a combination of other medicinal agents Messrs Burroughs, Wellcome, and Co have decided to issue para-toluene sodium sulpho-chloramide under the distinguishing name "Tolamine." The strengths in which it is usually employed range from 0·5 per cent. up to 4 per cent. solutions, the stronger being used for irrigating infected wounds "Soloid" tolamine is prepared at the Wellcome Chemical Works, Dartford, and suppled in the gr 8 75 strength in bottles of 100, and in the gr 87 5 strength in tubes of 10

THE HISTORY OF CLINICAL THERMOMETRY

DR. John Haddon (Hawick) writes —Those who are alive to tell of the earliest experience with the clinical thermometer must be few in number During the session 1867–68 I acted as resident physician in the Edinburgh University clinical wards under Professors Bennett, Laycock, and Maclagan, and worked with the thermometer and the sphygmograph, taking observations which formed the subject of an M D thesis Some years before Dr Gould had taken the thermometer as the subject of his thesis, and I believe he also received a gold medal Dr Baddeley was at the same time working with the thermometer in the fever wards, and we drew up a chart together on which our observations were recorded in diagrammatic form Dr Baddeley unfortunately died from typhus fever during that session At that time typhus fever cases were treated in the clinical wards, where I caught the infection myself in 1865–66

THE SIZE OF THE NEW ARMY.

To the Editor of THE LANCET

SIR,—When we read in the newspapers that the British army is now 4,000 000 men, and remember that before the war it was about 805,000, we are a little at a loss for appreciating the comparison The following method may help us to realise what this increase means There are 810,697 words in the Bible, and we had about that number of soldiers There are also 3,566,480 letters in the Bible, and we can now consider every letter as a soldier instead of every word as heretofore. Also, we may consider that the first letter of every three verses is a medical man in the R A.M.C for there are about 10,000 medical officers now (vide "Strength of the Royal Army Medical Corps," THE LANCET, Nov 20th, 1915, p 1167), and there are 31,173 verses in the Bible. To take a Bible and turn over its leaves and realise that every single letter is a soldier in our army produces an impressive feeling of what fighting means

I am, Sir, yours faithfully,
ACCOUNTANT.

Feb. 14th, 1916

MEMORIAL TO THE LATE MISS KATHARINE MONK

A MEMORIAL to the late Miss Katharine Monk is being arranged by a committee, of which Viscount Hambleden is chairman Miss Monk, whose death occurred on Feb 20th, 1915, was for 21 years sister matron of King's College Hospital taking charge of the nursing when this was relinquished by the St John's Sisterhood She was thus the founder of the Nursing School of King's College Hospital and inspired its special characteristics It is proposed to erect a memorial in the hospital, and, if funds permit, to form an endowment in connexion with the Nurses' Home or the Training School for Nurses Donations should be sent to the Secretary, Monk Memorial Committee, King's College Hospital, Denmark Hill, S E

AN APPEAL TO SMOKERS

AT the Home for Disabled Belgian Soldiers, 45, Courtfield gardens, Kensington, S W, one of the homes maintained by the Wounded Allies Relief Committee, many of the disabled men are turning out articles in poker work, including boxes suitable for cards, counters, and trinkets. Gifts of cigar-boxes will be gratefully received, as their employment makes it possible to devote a larger share of the profits to the direct benefit of the workers

Lieutenant, R A M C—The address of the Association for Moral and Social Hygiene is 19, Tothill street, Westminster, S W, and its official organ, *The Shield*, is issued quarterly

COMMUNICATIONS not noticed in our present issue will receive attention in our next

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY Burlington House, London, W

THURSDAY —Papers:—Mr K. Pearson Mathematical Contributions to the Theory of Evolution XIX., Second Supplement to a Memoir on Skew Variation —Mr F P Burt and Mr E. C. Edgar: The Relative Combining Volumes of Hydrogen and Oxygen (communicated by Prof H. B Dixon) —Mr W Mason On Speed Effect and Recovery in Slow-speed Alternating Stress Tests (communicated by Prof. B Hopkinson)

***ROYAL SOCIETY OF MEDICINE*, 1, Wimpole-street. W**

MEETINGS OF SECTIONS

Thursday, Feb 24th.

NEUROLOGY (*Hon. Secretaries—H Campbell Thomson, C M Hinds Howell*): at 8 P.M.

CLINICAL MEETING

Members who desire to show cases are requested to communicate with *Dr C M Hinds Howell 145, Harley-street W*

MEDICAL SOCIETY OF LONDON 11 Chandos-street, Cavendish-square W

MONDAY —9 P.M Lettsomian Lecture:—Major F W Mott: *The Effects of High Explosives on the Central Nervous System. (Lecture II.)*

ROYAL SOCIETY OF ARTS John-street, Adelphi W C

WEDNESDAY —4 30 P M Miss H. B. Hanson: Serbia as seen by a Red Cross Worker

HUNTERIAN SOCIETY 1 Wimpole-street, W

WEDNESDAY —9 P M, *Demonstration:—Dr R D Maxwell: Gynæcological Specimens* Discussion invited.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

ROYAL COLLEGE OF SURGEONS OF ENGLAND Lincoln's Inn Fields W C

Course of Lectures on the Anatomy of the Human Body *for First-aid* and Ambulance Students (*open to all members of ambulance companies and first-aid classes*):—

MONDAY WEDNESDAY AND FRIDAY —5.30 P M *Prof A Keith* 4 P M to 7 P M *Exhibition of Anatomical Preparations and Specimens* in the Theatre *on lecture days* and between 10 A M and 5 P M. in the Hall of the Museum on the following day

POST-GRADUATE COLLEGE West London Hospital, Hammersmith road, W

MONDAY —2 P.M., Medical and *Surgical Clinics* X Rays Mr Gray: *Operations*. Mr B Harman: Diseases of the Eye Dr Simson: Diseases of Women.

TUESDAY —2 P.M Medical and Surgical Clinics X Rays Mr *Addison: Operations* Dr Banks Davis: Diseases of the Throat, Nose and Ear Dr Pernet: Diseases of the Skin.

WEDNESDAY —10 A.M Dr Saunders: *Diseases of Children* Dr Banks Davis: Operations of the Throat, *Nose* and Ear 2 P M Medical and Surgical Clinics X Rays Mr Pardoe: Operations Dr Simson: Diseases of Women.

THURSDAY —2 P.M., Medical and Surgical Clinics X Rays Mr Gray: *Operations* Mr B Harman: Diseases of the Eye.

FRIDAY —10 A.M. Dr Simson: Gynæcological Operations 2 P M., Medical and *Surgical Clinics* X Rays Mr Addison: Operations. Dr Banks Davis: Diseases of the Throat, Nose, and Ear Dr Pernet: Diseases of the Skin.

SATURDAY.—10 A.M. Dr Saunders: *Diseases of Children* Dr Banks Davis: *Operations* of the Throat, Nose, and Ear Mr B. Harman: Eye Operations 2 P M., Medical and Surgical Clinics X Rays Mr Pardoe: Operations

NORTH EAST LONDON POST GRADUATE COLLEGE, *Prince of Wales's General Hospital, Tottenham*, N

MONDAY —Clinics:—10.30 A.M. Surgical Out patients (Mr E Gillespie) 2.30 P.M. Medical Out-patients (Dr T R. Whipham): Gynæcological Out-patients (Dr Banister) 3 P.M., Medical In patients (Dr R M Leslie)

TUESDAY —2.30 P M., Surgical *Operations (Mr Carson)* Clinics:—Medical Out patients *(Dr A G Auld)* Surgical Out patients (Mr Howell Evans); Nose Throat and Ear Out-patients (Mr C H Hayton) Radiography (Dr Metcalfe) 3.30 P.M., Medical In patients (*Dr A J Whiting*)

WEDNESDAY—Clinics:—2.30 P M. Throat Operations (Mr C H Hayton) Children Out-patients (Dr T. R. Whipham) Eye Out-patients (Mr R. P Brooks) Skin Out-patients (Dr H. W Barber) 5.30 P.M. Eye Operations (Mr R. P Brooks)

THURSDAY —2.30 P.M Gynæcological Operations (Dr A. E Giles) Clinics:—Medical Out-patients (Dr A. J Whiting) Surgical Out-patients (Mr Carson) Radiography (Dr Metcalfe) 3 P.M, Medical In patients (Dr R M. Leslie).

FRIDAY —2.30 P.M. Surgical Operations (Mr Howell Evans) Clinics:—Medical Out-patients (Dr A. G Auld) Surgical Out-patients (Mr E Gillespie) Eye Out-patients (Mr R. P Brooks)

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN 49 Leicester-square W C

TUESDAY —6 P M., Dr K. Sibley X Rays High Frequency

THE THROAT HOSPITAL, Golden square W

MONDAY.—5.15 P M. Special Demonstration of Selected Cases
THURSDAY —5.15 P M Clinical Lecture.

For further particulars of the above Lectures, &c see Advertisement Pages

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor"

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title-page to Vol II. of 1915 were given in THE LANCET of Dec. 25th 1915

VOLUMES AND CASES

VOLUMES for the second half of the year 1915 are now ready Bound in cloth, gilt lettered, price 16*s*, carriage extra

Cases for binding the half year's numbers are now ready Cloth, gilt lettered, price 2*s* by post 2*s* 4*d*

To be obtained on application to the Manager accompanied by remittance.

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TO COLONIAL AND FOREIGN SUBSCRIBERS

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THE Secretary of the War Office has issued the following order.—

> The public are informed that on and after Saturday November 6th, newspapers, magazines, books, and other printed publications (other than trade circulars) will not be sent forward to neutral European countries unless posted direct from the office of publishers or newsagents who have obtained permission from the War Office for this purpose Persons desiring to send newspapers, &c, to neutral European countries should, therefore, give their orders for execution to publishers or newsagents who have obtained such permission.

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Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, Feb 16th 1916

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radio in Vacuo	Maximum Temp Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks
Feb 10	29·860	S W		72	46	32	35	36	Cloudy
11	29·344	S E	0·25	61	45	36	41	42	Raining
12	30·044	N	0·15	76	46	33	37	38	Cloudy
13	30·071	W	0·02	81	53	38	40	42	Cloudy
14	29·850	W	0·30	76	51	42	45	47	Cloudy
15	29·600	N W	0·35	79	53	34	36	37	Overcast
16	29·210	W	0·21	84	53	37	49	52	Raining

The following magazines, journals &c., have been received —Dublin Journal of Medical Science Birmingham Medical Review, Albany Medical Annals Medical Chronicle British Journal of Children's Diseases Dominion Medical Monthly Cleveland Medical Journal, Maryland Medical Journal Archives of Radiology and Electrotherapy American Journal of Public Health Annales de l'Institut Pasteur Journal of Nervous and Mental Disease New Zealand Medical Journal, Canadian Medical Association Journal, Middlesex Hospital Journal, Medical Journal of South Africa, New York Medical Times

Communications, Letters &c , have been received from—

A.—Messrs Allen and Hanburys Lond. Dr C Adam Elgin Asiatic Petroleum Co, Lond, Mr Edward Arnold Lond; Ahmedabad Medical Society Hon. Secretary of *Archives of Pediatr'cs* New York, Business Manager of; Army and Navy Nurses' Co-operation, Lond, Secretary of, Messrs Armour and Co, Lond. Mrs E Alec Tweedie Lond Dr Russell Andrews Lond

B—Board of Education Lond British Drug Houses Lond. Messrs Charles Birchall Liverpool; Messrs Baillière, Tindall, and Cox Lond Birmingham Children s Hospital, Secretary of Mr E Baker Birmingham Mr S N Babington Taichow; Mr O Berthier Paris; Mr A. H Burnett, Southampton British Red Cross Society County of London Branch Bath, The Mayor of Dr C H Browning, Lond. Messrs P Blakiston's Son and Co, Philadelphia; *Messrs Burgoyne Burbidges* and Co, East Ham

C—Child Study Society Lond.; Mr S Corbishlay, Southampton Coventry and Warwickshire Hospital *Secretary of; County Asylum*, Preston Clerk to the Mr *H A. Collins, Croydon*; Surgeon H B Carlill R N Lond. *Dr F G Chandler Lond.*; Dr Hugh Crouse, El Paso Texas Mr Bernard Cridland Wolverhampton

D—Dr R Donaldson, Reading Messrs W Dawson and Sons Lond. Mr John Dunlop Lond Doctor, Ealing Dr J Donelan Lond Dr W A. Daley, Bootle, Messrs. Dale Reynolds and Co, Lond Dr Ebenezer Duncan, Glasgow Mr Leonard S Dudgeon, *Lond*

E—Messrs. Eyre and Spottiswoode Lond Mr J Howell Evans Lond.; Eugenics Education Society, Lond., Mrs P Evans, *Richmond*; Dr T J English Lond. *East End News and London Shipping Chronicle* Lond Dr William Ewart, Lond.

F—Dr R Fortescue Fox Lond Dr W E Fothergill Manchester Lieutenant-Colonel F E Fremantle, R A.M.C (T) Dr *David Forsyth Lond* Factories Chief Inspector of Lond., Dr A. Mearns Fraser *Portsmouth*

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I.—Dr M H F Ivens France.

J—Mrs Johnston Lond.

K.—*Dr R H. Kummer*, Genera, Mr E H Kerr *Truro*; King Edward VII Hospital Cardiff, Chairman and Board of Management of Lieutenant A Mills Kennedy R.A.M.C King s College Hospital, Lond, *Secretary of Dr T N* Kelynack Lond

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M.—Mr John Mackay, Edinburgh Captain A. Mowat, R.A.M C Diss Mrs Macdonald Edinburgh Mr H Milford, *Lond.*; Mr W Martindale, Lond Mr J Y W MacAlister Lond Dr J C McWalter Dublin Dr F Murray Lond M S; Mr J E R McDonagh, Lond Mr A. Staines Manders Lond. Manchester Royal Infirmary, General Superintendent and Secretary *of Sir John Moore*, Dublin, Mr A. Mapple, Lightwater Messrs J Menzies and Co Glasgow Maltine Manufacturing Co, *Lond*

N—*New York Pharmaceutical Co*, Bedford Springs National Provident Institution *Lond*; *North* of England Obstetrical and Gynæcological Society, Lond Mr F Newland Pedley, Paris

O—Colonel Mathew D O Connell.

P—*Sir R W Philip Edinburgh*; Captain J S *Prentice* R.A.M C, *France Dr Pollcard France* Dr J Pokrassa Charkoff, Professor *H G Plimmer, Lond*; Dr *T Wilson Parry*, Lond; Dr Richard Purdon Belfast, Dr Edward E Prest New Cumnock

R.—Mr M. *Radford*, Carshalton Messrs Reynell and Son Lond *Royal Society of Medicine*, Lond Librarian of; R W S C Royal Portsmouth *Hospital*, *Secretary* of; Dr Olive Rivière Lond; Mr L E Rogers, *Gloucester* Lieutenant A. Reid, R.A.M C Dr D M. Ross Bournemouth Dr Rayne, Lancaster Royal Sanitary Institute, Lond., Secretary of; Royal Academy of Medicine in Ireland, Dublin *Royal Maternity Charity* of London Secretary of Lieutenant A. A. Rutherford *R.A.M C France*; Royal Surrey *County Hospital* Guildford Secretary *of*; Royal Albert Hospital Devonport Secretary of; Royal Society Lond. Royal College of Surgeons of England, Secretary of Royal Statistical Society, Lond; Royal Society of Arts, Lond. Royal *Meteorological* Society Lond. Secretary of; Rubber Growers Association *Lond*

S—Mr B K. Stansfeld Lond Salford Guardians, Clerk to the Surgical Manufacturing *Co* Lond Sheffield City Hospitals Medical Superintendent of Dr John Steed, Hereford Messrs W H Smith and Son Lond Dr Senta, Noiraigue; Sunderland Royal Infirmary Secretary of Lieutenant A. Sandston, R A.M.C, Netley; *Professor G* Elliot Smith, Manchester St John s Hospital, *Lond., Sir George Savage* Lond. Mr Claude St Aubyn *Farrer* Lond.; Messrs. W H Smith and Son Manchester Salford Royal Hospital, Secretary of Sheffield Guardians *Clerk to the*, Miss G K. Simmons Arosa Sceptre Life Association Lond Mr T Sington Manchester Mr C V Samwell, Edinburgh Mr K. Sakagami, Lond.; Mr F Bentham Stevens Lewes

T—*Mr C F* Thackray, *Leeds* Messrs W Thacker and Co Lond Mr J Thin Edinburgh, Dr Seymour Taylor Lond.; Dr John Tatham Old Oxted; Trained Nurses Annuity Fund, Lond. Hon Secretary of; Lady Tweedy Lond. Captain H. S Tunnard Lond.; Mr D R. Thom Aberdeen

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Z—Major B T Zwar, A M.C

Letters, each with enclosure, are also acknowledged from—

A.—Dr C Achner Lond Mr E B M Atkins Pencoed

B.—Mr M Barr Lond. Bristol *General Hospital Secretary of* Dr W H J Brown Lond; Dr J S Boothroyd *Driffield*; Major C R Bakhle I M.S *Delhi* Mr *E Ball Lond.* Mr M McL Bainbridge, Makerston Dr H O Butler, Lond Belgian Relief Fund, Lond, Treasurer to the.

C—Mr E. Clarke-Jones Lond., Messrs W Collins and Son *Leamington College of Preceptors*, Lond Secretary of *G W Carnrick and Co* Lond Cumberland County Council Carlisle Accountant to the Cornwall County Council Truro Accountant to the Co-operation of Temperance Male and Female Nurses, Lond. Captain R Carswell R.A M C (T), Lond.; Messrs E Cook and Co, Lond. *Messrs Crossley* and Co, Lond. Mr Maurice A. Cassidy Lond.; Mr J Crowley *Ballycastle* Mr C E Cowen, Uitenhage South Africa.

D—Mr *R Donald* Lond. D M; Sir H Bryan *Donkin* Lond.; Professor Dreyer Oxford David Lewis Northern Hospital, Liverpool, Secretary of

E.—Dr W H Evans Cardiff *E B*

F—Mr H A. Fenton, *Lond* *Dr F D Fisher Little* Sutton Mr A Foerster Lond F H.

G—*Dr R. M Gil Malaga* G M

H.—Mr A. Hawkins Ventnor Messrs Holt and *Co*, Lond Hereford County and City Asylum Clerk to the *Captain* A. F Hamilton, I M S Egypt Mr J Hawthorne *Uppingham* Mr W H *Haw* Knysna, South Africa; Messrs Abel Heywood and Son Manchester Dr R J Huston Kobe

I.—*International* News Lond.

J—Dr J Jamieson Abercynon *Mr W E Jones* Blackburn; J R; Dr R Johnston Dundee Mr *T Jones* Buxton J H W

K.—Mr J I F Knight, Theale; Mrs C de Kingcorne *Lond*

L.—Mr D Lewis Lond; Captain R D Long *R A.M C*, France; Mr A. G Littlehales *Swindon*; Mr A. Lupton Stow-on-the-Wold Messrs. Leslies, Lond; L. R; Mr T S *Logan* Stone; *Dr* C E Lakin Lond

M—Lieutenant J M Mitchell, Malta Male Nurses Temperance Co-operation Lond. Secretary of, *Messrs Matthews Bros., Lond.*; Messrs Mawson and Co, Lond., Medical *Defence Union* Lond., Secretary of Middlesbrough *Corporation, Accountant to the* Mr H. M Marsh Edwards, *Ferndown*; Mrs Morison, Lond.; Captain M H Mackay R.A.M.C., France Mr R Miyake Okayama Mr J F Mackenzie Edinburgh; Dr L Molloy Blackpool; Messrs. C *Mitchell and Co* Lond Mr R de Martini, Leyton *Mr G B Messenger* Sheffield; Dr W MacLaughlin, Bangor, Ireland Mr E Meadows Otley; Dr Basil W Martin Leicester

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Investigations ON CLINICAL THERMOMETRY

CONTINUOUS AND QUASI CONTINUOUS TEMPERATURE RECORDS IN MAN AND ANIMALS IN HEALTH AND DISEASE

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V.—OBSERVATIONS IN MAN AND ANIMALS

VALUE OF QUASI CONTINUOUS TEMPERATURE RECORD METHOD IN STUDY OF TUBERCULOSIS

As illustrating the character of the temperature curves obtained from tuberculous patients we may take those obtained from patients treated at Addenbrooke's Hospital, at the Cambridge County Tuberculosis Dispensary, in sanatoria, or at one or other of the open air colonies founded near Cambridge We select these as here the patients could be kept under careful observation and any special treatment, reaction, and results noted at once, this allowed of their importance being properly appreciated In Fig 21 we have an exact reproduction, on a reduced scale, of one of the record charts with notes as made at the time It is obvious that, on account of the space required, it would be difficult to reproduce these charts *in extenso*, and as the record is still exact even when subjected to lateral contraction, all the charts have been drawn to scale but with this lateral condensation

As the records of rectal temperatures are reliable and are now those usually noted in most sanatoria we decided that, for the present, it would be well to utilise records of this type only The figures inserted on the "hour" lines of the charts indicate the mouth temperatures taken with a mercurial clinical thermometer, and the times at which they were obtained, and are here given for purposes of comparison and control. The letters are merely indices of certain events of the day D = dinner, T = tea, Mic = patient rose to micturate, S = supper, B = breakfast Sm. = smoking, &c (See Fig 5, p 285)

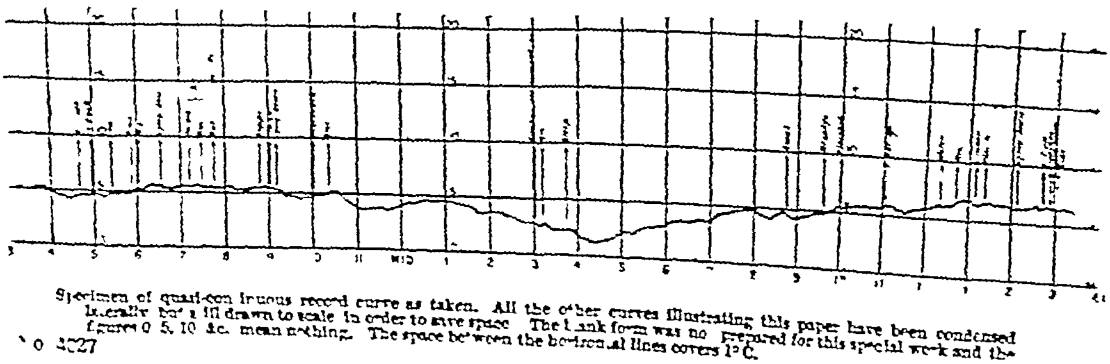
On p 285 are given temperature records (Figs 7 and 8) obtained from a couple of patients suffering from tuberculous disease The patients remaining in bed in Addenbrooke's Hospital had their temperatures recorded at the Pathological Laboratory a third of a mile away These excellent records show how completely the external influences that might affect the minute electrical currents utilised have been overcome, and how sensitive is the apparatus

In the disease selected for our experiments the temperature is often continuously high, but fluctuating Consequently it was necessary in designing and working the apparatus to allow for a sensitiveness much below that usually employed, though far greater than any that can be obtained by means of an accurately standardised and rapidly acting clinical mercurial thermometer The first thing that strikes one in these records is that the curves, though profoundly altered, the temperature varying greatly from hour to hour, still maintain in a remarkable degree their fundamental diurnal variations

In the case, J S, from which Fig 7 was taken, the effect of a dose of tuberculin (0·001 mg of Koch's bacillary emulsion), which produces a distinct rise of temperature almost immediately after its administration, is most striking and interesting The patient at the time the record was taken was extremely ill, the clinical signs in the lung being those characteristic of advanced phthisis The record serves to illustrate the delicacy and completeness of this method of temperature recording It is usually considered that in advanced cases of tuberculosis tuberculin produces no effect on the temperature, but here we have a distinct rise, which, however, might have been overlooked had the four hour method of taking the temperature been employed.

In the second case, E J M., suffering from tuberculous peritonitis in which no tuberculin was used, it will be noted that the maximum temperature, 39° C, was recorded at 6 P.M. From this time the temperature remained high until 8 P.M., the "plateau," however, sloping steadily downwards until 8.20, when the curve begins to fall more rapidly The commencement of this fall corresponds to the time at which the patient fell asleep Sleep was very disturbed, and there is a rise at midnight which is again followed by a fall until between 2 and 4 A.M., when the minimum temperature is reached. At 2 A.M. it should be noted that the difference between the skin temperature and that of the rectum takes a peculiar form. The temperature of the skin, 38° C., is actually 0·6° C higher than that of the rectum, 37·4° C This is a complete reversal of the ordinary relationship

FIG 21.



Specimen of quasi-continuous record curve as taken. All the other curves illustrating this paper have been condensed laterally but still drawn to scale in order to save space The blank form was not prepared for this special work and the figures 0 5, 10 &c. mean nothing. The space between the horizontal lines covers 1° C.

Parts I., II., III., and IV were published in THE LANCET of Jan. 22nd (p 17[illegible]) Feb 5th (p. 231) Feb 12th (p 33[illegible]) and Feb 26th (p [illegible]50) between the skin and rectal temperatures In healthy normal subjects the rectal temperature undoubtedly tends to approximate to that of the skin at this period, but in most cases it is usually slightly the higher of the two Not only is the rectal temperature in this case markedly lower than the skin temperature at this period, it is continuously slightly below it for practically the whole 24 hours, there is, in fact, a complete reversal of the normal state of affairs The rectal temperature begins to rise at 4 A.M , about an hour and a quarter before the patient awakes, after which it continues to maintain its upward tendency with a slight remission at breakfast time, due to the ingestion of food, this is soon followed by the usual "digestion" rise Hot milk (M) taken at 10 10 A M sets up another slight rise, which is followed by a more marked upward tendency which continues until 2 30 P M , when the experiment was stopped The patient, a lad aged 18, was very ill at the time the record was taken, and the temperature recorded by the surface thermometer was both high and fluctuating The diurnal variation is still a marked feature, but the subsidiary curves which are superimposed tend to complicate and obscure the main variations Sharp falls were noted on the surface temperature record at 4 and 6 A.M., but these were undoubtedly due to the non approximation of the thermometer to the surface of the body, and served at the time to illustrate the special difficulty sometimes experienced The later curves (Fig 5) of normal subjects show that, eventually, we were able to overcome this drawback

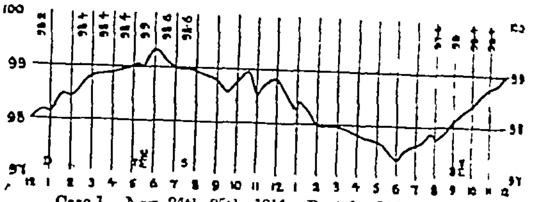
Typical Illustrative Temperature Records taken from other Tuberculous Patients

Case 1.—College servant, aged 42 June 11th 1914 Feeling run down, had a slight cough, and brought up a little sputum Night sweats once a week Appetite poor, patient losing weight. Coughed up a couple of ounces of blood two weeks ago June 30th Patient admitted to Maltings Farm Sanatorium, Neyland Temperature 99 2° F , rising on occasion to 99 6°, but for the greater part of his stay in the sanatorium his temperature was 98° at 9 A M , 99° at 12 noon and 6 P M , and about 98 4° at 9 P M In the first week in July the temperature fell to 96 6° at 9 A M on two occasions and on the next day to 97 2° This instability, a very interesting feature, was controlled by keeping the patient in bed Signs of mischief at the left apex Sept 25th Condition much improved, a gain of 9¼ lb on return from sanatorium Left apex healing, but at third rib a few dry crepitations were heard on deep breathing

Sept 29th Continuous temperature record taken, highest 99 5° and again on Nov 12th and 13th and on 24th and 25th (See Fig 22) Tuberculin injected and continuous record taken on Nov 27th and 28th (see Fig 23), and again on Dec 1st and 2nd Domiciliary treatment Dec 3rd Temperature over 99° the greater part of the day On Dec 16th 0 0001 mg T,R (P D and Co) injected, this was followed by a rise to 99° and we have a prolonged "plateau" line well marked (See Figs 24 and 25 Dec 16th 17th and 18th) The patient was putting on weight, but the chest condition appeared to be stationary Jan 7th, 1915 Work increased, but weight had fallen 2 lb —7 st 13¼ lb Working four days a week his weight had run up to 8 st in a month April 16th A tuberculin (0 0001 mg) record was taken (Fig 26) The disease was now fairly quiescent but the weight had fallen to 7 st 11½ lb Patient was working six days a week, undoubtedly too long June 10th The man was at full work There were fewer signs of active disease, weight 7 st 9¼ lb A week earlier there was some pain with tenderness over the third rib on the left side, but this had passed off At the end of September, although the man was still working full time, there was no exacerbation of the disease no crepitations could be heard, and the condition generally was extremely satisfactory

In Fig 22 we have the temperature curve of a somewhat feverish patient Standing at 98° F at midday it rises steadily with one or two rapid jumps to 99 3° at 6 o'clock in the afternoon By 7 o'clock it has fallen to 99°, and then it goes down by steps to 98° at 2 A.M , after which it falls steadily and continuously until it reaches its lowest point at 6 A.M , to rise again to 99° by noon, one degree higher than it attained the previous day at the same hour The irregularity of the line during what we may call the lower level period and the very rapid and steady rise, after the patient awakes, of the high temperature period should be noted

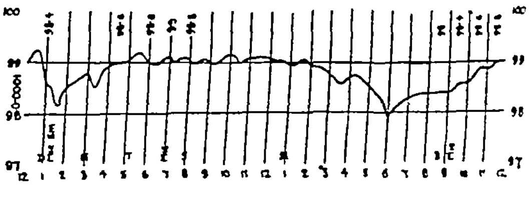
Fig 22.



Case 1 Nov 24th–25th 1914 Rectal 24-hour chart Pretuberculin temperature.

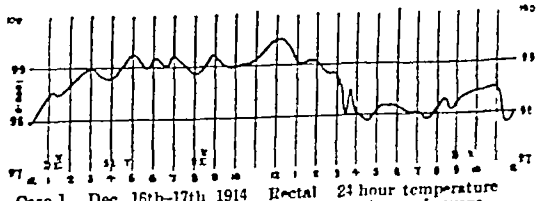
This may be taken as the "normal" curve of a patient in whom tuberculosis is becoming less active, it is to be looked upon as a "pretuberculin" temperature, though some "natural tuberculinisation" is taking place as the result of the patient engaging on work some four hours a day for several days a week At noon on Nov 28th 0 0001 mg of T R was injected, the temperature then standing at 99° This was followed by a slight rise to 99 3° at 12 30 P M , and then by a sharp fall to 98 2° (Fig 23) when food was taken, but by 1 30 P M an upward movement had begun, this continuing, as in the previous record, to 99 2° between 5 and 6 o'clock in the afternoon Now comes the characteristic feature, the temperature, instead of falling somewhat irregularly until 2 A.M , remains consistently high There are a few slight peaks on the record line, but they are merely small elevations on a broad high plateau Further, although the lowest point is again reached at 6 A M , this lowest point—97 9°—is half a degree higher than it was in the pretuberculin period curve The morning rise following this is almost identical with the corresponding rise of the pretuberculin period Fig 24 brings out another interesting

Fig 23.



Case 1 Nov 27th–28th 1914 Rectal 24-hour temperature chart immediately after tuberculin

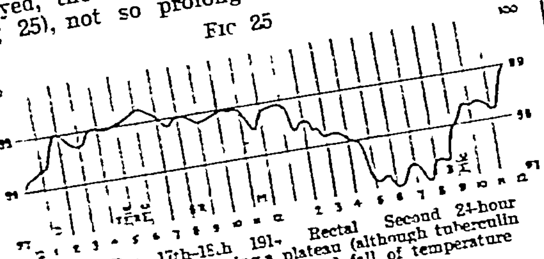
Fig 24



Case 1 Dec. 16th–17th 1914 Rectal 24 hour temperature chart to show effect of tuberculin on type of curve—tuberculin plateau.

feature of the tuberculin period. Here again, we have the high plateau continuing until 2 A.M (the period of night sweats), after which comes a sudden and very irregular fall All these small irregularities—some of them can scarcely be spoken of as 'small"—are exceedingly characteristic of a phthisical temperature and cannot be too closely studied, especially when they are followed by a depression which continues long after the usual period of recovery Although this recovery is delayed, there is a second period of reaction (Fig 25), not so prolonged as the first, but still

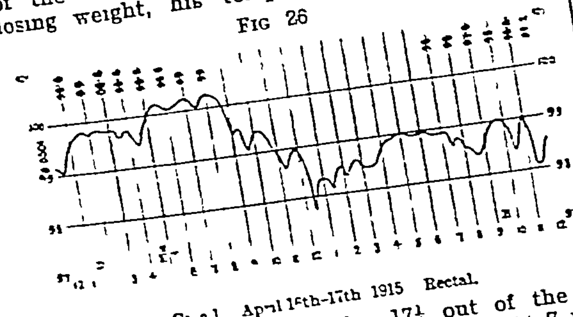
FIC 25



Case 1. Dec. 17th-18th 191- Rectal Second 24-hour temperature chart showing a plateau (although tuberculin was given 24 hou s ago) Marked fall of temperature condition of instability

distinctly marked and again very "wobbly" towards the end In this case also the lowest temperature is reached at 6 A.M, and again the rise is delayed until nearly 9 o clock from which point there is a rapid rise until at 12 noon, when 99° is recorded. These long "extreme' periods with the small irregularities are also charac teristic of the tuberculin reaction, whether pre pared tuberculin be injected or we produce a process of auto tuberculinisation as the result of too violent or too prolonged exercise of the tuberculous patient Here, as in cattle (Fig 36), the instability of the temperature and the ease with which it may be induced to fall and rise is as remarkable a feature as the range of variation from the diurnal normal When the patient appeared to be doing well as regards the condition of the lungs, but was working too hard and losing weight, his temperature curve was not

FIG 26



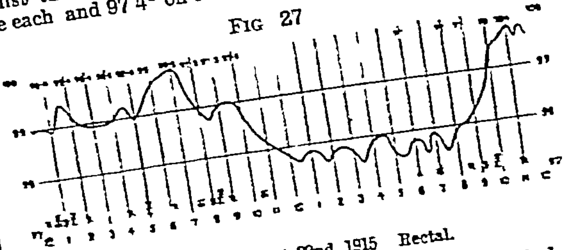
Case 1 April 16th-17th 1915 Rectal.

only very irregular, but for 17½ out of the 24 hours it ranged between 98° and 99 At 7 P.M. 100 3 was recorded at 12 midnight it had fallen to 98, and at 6 A.M to 97·7° After the exhibi tion of 0 0001 mg tuberculin a curve (Fig 26) quite distinct from any previously noted, but certainly a "tuberculin curve was obtained. Running high for eight hours it reached its highest point, 100·2 at 8 P.M The 'plateau is not very wide, but it is still there, with its small elevations Then comes a rapid but intermittent fall until half an hour after midnight, when it reaches its lowest point 97 7°, this being followed by an irregular or staircase rise for 3½ hours a plateau for 3 hours, and finally a series of upward and downward jumps in which the temperature varies from 0 6° to 0 9° Here the wide range and the marked instability are very charac teristic, and to our minds indicate that in this instance at any rate the injection of tuberculin was not likely to do any good The reaction was too great The continued instability of the temperature afforded further evidence that this indication might be followed for the future

CASE 2—Man, aged 28, formerly confectioner s cook, now a gardener Seven years ago developed a bad cough and was treated by Professor J B Bradbury at Addenbrooke s Hospital and later at a sanatorium Seen Nov 19th 1914 Cough then very troublesome, much sputum Signs of active disease at both apices, dullness and crepitations extending down the left side as far as the base posteriorly Patches of bronchial breathing over the third rib in front General condition fair but patient was breathless and recently had had several slight hæmoptyses, weight 10 st. 8 lb Dec. 3rd General condition not so good, greater breath lessness, cod liver oil, weight 10 st 7 lb Dec. 17th Disease seemed to be extending Jan. 1st, 1915 Was doing light garden work and seemed better signs in lungs about the same For about a month he did odd jobs, window cleaning and gardening (mostly digging) for from 2 to 6 hours a day, spending about two days a week (24 hours at a time) in bed at the laboratories. getting well fed and having his temperature taken. For another fortnight he worked about three days a week from 6 to 8 hours a day He then went to Ventnor Isle of Wight, for six months and returned much improved and though some signs of active disease still presented themselves he was able to work as a gardener for 8 hours a day

From Sept. 22nd 1915 to Oct 13th he was working on 17 days and on only five did the temperature rise to 98·6° F, on one of these to 98 8°, once it fell to 97 2° Usually the lowest fall was to 98 4° or 98·0° On the five rest days the temperature once rose to 98 6° and four times to 98 4°, whilst the fall on these five days was to 97° 97 2°, 97 6°, one each and 97 4° on two occasions

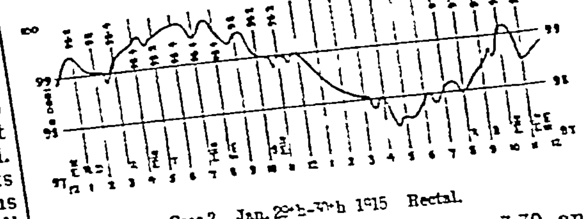
FIG 27



Case 2. Jan 21st-22nd, 1915 Rectal.

On Jan 21st and 22nd, when the patient had been doing very light work for a couple of hours a day and after a short morning spell of work, a 24 hour record was commenced at 12 noon (Fig 27), when the temperature was 99° F Between 1 and 2 o clock it rose to 99 4, and at 7 o clock it had reached 99 8° It then fell steadily to 97 7° at 1 30 A.M., and remained low for some time with undulations of from 0 3° to 0 5°, reaching 97 5° on

FIG 28

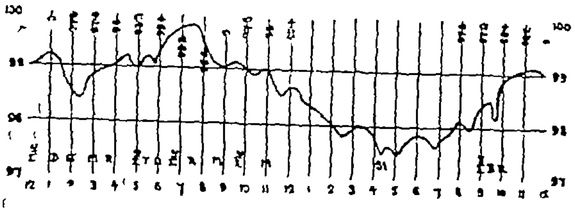


Case 2. Jan. 29th-30th 1915 Rectal.

no fewer than four occasions between 3 30 and 8.30 A.M. Then followed a rise of 2·2 in 3½ hours No plateau occurs in the evening curve, but most pronounced instability and variation through a wide range are to be noted.

A week later, when the patient was doing the same kind of work, the usual dose of T R (0 0001 mg) was injected, and although the temperature (Fig 28) rose no higher than in the above record (Fig 27), we now see the characteristic plateau with the small peaks jutting out at irregular intervals The minimum temperature is reached between 4 and 5 in the morning, after which comes a fairly rapid rise, again peaked and again accentuating the instability characteristic of the tuberculin temperature The patient was then put to work six hours a day, and we now obtain an almost exact repetition of the pretuberculin curve with all its many peaks and depressions, but without the plateau like elevation resulting from the throwing in of a single comparatively large dose of tuberculin (Fig 29) The irregularity *may* have in it a "septic" or pyæmic element, the plateau appears to be a pure tuberculin phenomenon

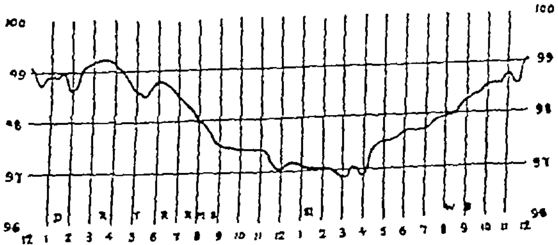
FIG 29



Case 2. Feb 2nd-3rd 1915 Rectal

CASE 3 —A boy, aged 16, laboratory assistant, examined Sept 18th 1914 Fairly well developed, chest poorly covered Movement not so good on right side as on left Poor note over right upper lobe breath sounds feeble, some crepitations The boy was said to be much improved by two months' stay in a tent in the country where he was allowed to do as he wished. Could not be sent to sanatorium through lack of funds Sept 19th Complained of pain on defæcation, had been treated for piles An abscess found and patient sent to Addenbrooke's Hospital Oct 31st Operated upon by Mr A Cooke, and on Dec. 8th patient was transferred to colony at Little Abington, where he was kept in the open air in a shelter, the wound being packed daily, the sinus healed gradually There was steady improvement in the condition of the lungs although a patch of dullness has always been made out over the affected area. No cough or sputum This patient first worked in the garden and then at light farm work, which was gradually increased until he was able to do a full month's harvesting in the fields On Feb 20th-21st and March 23rd-24th, 1915, 24-hour temperature records were taken the first when the abscess had been opened and scraped and was healing the second when the abscess had healed, but 0 0001 mg T R had been injected The temperature records were taken when the lad was on first-grade exercise By Nov 2nd lung lesion and sinus had both healed.

FIG 30

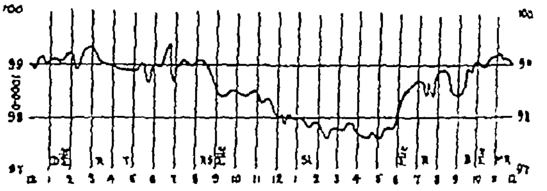


Case 3 Feb 20th-21st 1915 Rectal

The two records taken from this case are extremely interesting and instructive, especially to those who have been accustomed to depend upon the difference in range of temperature rather than on a difference in the character of the variations In Fig 30 we see a variation of 2 4° F during the 24 hours It commences higher than normal 99 1° F at noon, and although it falls to 98·7° by 2 o'clock it has risen at 3 30 to 99·2° From this point there is a steady fall (with the exception of a slight rise after tea) at 6 P M until 12 midnight, when the temperature recorded is a shade over 97° At 3 A M it is 96 8°, at 3 30 A.M 97°, at 4 A M 96·9°, after which there is a steady and continuous rise to 98 8° at 11 A M, and after a slight fall it goes beyond 99° at noon Here, although the range is wide, the variations occur with great smoothness The patient slept from 9 15 P M to 5 30 A.M, but an hour and a half before he awoke there was a sudden rise, the sharpest in the whole curve This wide range of temperature occurring even whilst the patient is resting in bed is undoubtedly characteristic of certain types of tuberculous disease

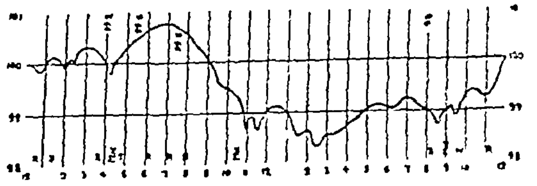
During the next month the condition of the patient improved considerably, the range of the greatest diurnal variation coming down to 1 8° F When a small dose of tuberculin, 0 0001 mg, is injected the range of the variation is not increased, but the character of the record changes completely (Fig 31) The tuberculin was injected on March 23rd at 7 45 P M, when the temperature was 98 2°, and although there is the usual "sleeping" fall the curve becomes extremely irregular, the small peaks and depressions now making their appearance on the chart At 5 A.M the temperature is 97 6°, by 10 A M it has reached 99° by a series of jumps usually followed by smaller backslidings, after which for the next 10 hours the line keeps on a kind of level plateau at 99° with slight rapid depressions of 0 1° to 0 3° below this figure and equally rapid elevations of 0 4° beyond the 99° line The instability, the regular plateau with its small peaks and dips constituting, we believe, distinct evidence of a slight tuberculin reaction

FIG 31



Case 3 March 23rd-24th 1915 Rectal

FIG 32



O C August 25th-26th 1915

In almost all the records of tuberculous temperatures we have a marked rise usually commencing about 5 P M, after warm tea has been taken, the apex of the curve being reached about 2 hours later From this point onwards there is a steady and regular fall during from 4 to 6 hours, according to the time that the patient sleeps soundly, whilst as soon as the period of deep sleep is passed the record indicates considerable instability

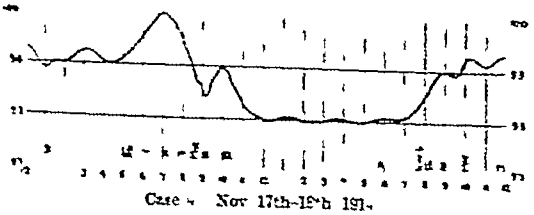
Fig 32 affords a further admirable example of this type of curve, which was taken from a case of a patient suffering from tuberculous disease of both lungs and a perineal abscess. It appears to us, however, that in almost all the cases in which this occurs there is a septic complication, and that we have both wide range of temperature and great instability

CASE 4 —Male, aged 21, scientific instrument-maker, examined on Dec. 25th, 1913 Had a history of rapid wasting, much cough, but no expectoration. Ill about five months. Patient had no treatment until three days ago, when he went to bed with severe hæmoptysis which had now ceased. Physical signs Temperature 99° F at 12 noon. Slight dullness at both apices whistling rhonchi, probably due to the hæmorrhage, which obscured other sounds Dr Laurence Humphry reported that "as there has been recent copious hæmoptysis the case belongs to class which has favourable prognosis" Case had been in a sanatorium, but was discharged "because the authorities said he had a hernia." Was operated upon at Addenbrooke's Hospital for psoas abscess After discharge from hospital the patient lived in a very stuffy room until Oct. 15th, 1914, when he was sent out to the colony at Bourn, the Scientific Instrument Co making a contribution towards the expenses of the treatment The sinus from the abscess, from which there was profuse discharge accompanied by pain in the lumbar region of the spinal column, gradually healed when patient had been put into a poroplastic jacket and kept absolutely at rest on his back on a hard mattress, the wound being dressed daily and the body carefully protected against bedsores

Nov 1st 1915 The pain has disappeared and the discharge ceased four months ago Patient, who had passed the whole winter in bed in his shelter, was now being taken out in a spring carriage and was putting on weight. Cough had disappeared, there was no expectoration and the temperature had been normal for months This patient had been given up as hopeless until he was sent out to the colony

In Fig 33 we have a typical tuberculous temperature chart in which the temperature is recorded as keeping at or slightly above 99° from 10 A.M. until 5 P.M with a few slight but fairly well marked variations It then begins to rise steadily, and by 7 P.M it has reached 100 only to fall, when the night sweat has developed, to 98 4° at 9 P.M Although it now takes a turn and rises to 99 at 10 P.M. it falls a whole degree, to 98°, by midnight, and here it continues practically unaltered until 7 A.M., from which time to 10 A.M. it rises 1 3° These rapid and extensive falls also appear to be characteristic of certain forms of tuberculosis, though, if that be the case, the septic characteristics which might be looked for in this case are not prominent features

FIG 33

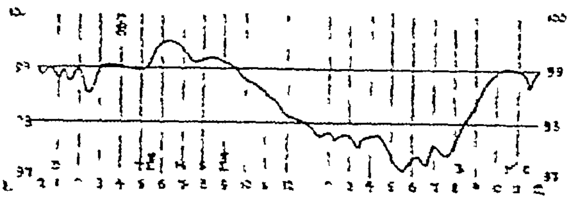


Case 4 Nov 17th-18th 191

CASE 5 —Belgian refugee aged 21. Nov 19th, 1914 Sent to dispensary by Mr Cooke. Patient is a well built man, he suffers however from some wasting of the shoulder girdle muscles and the local subcutaneous fat, the leg muscles are well developed. Past history University student and army officer At the outbreak of the war he was a despatch rider, he fell off his bicycle and felt pain in left side Saw a professor at Ghent, who said he had tuberculosis On examination Right lung Note high pitched over clavicle and to level of second rib, otherwise no abnormality discovered. Left lung Note full at apex and below clavicle to level of third rib and in the supraspinous fossa. Breath sounds were feeble over these areas and a few crepitations were heard At the base there were marked dullness and many crepitations On Dec. 14th, 1914, the patient was transferred to the colony at Little Abington, and has since lived an outdoor life in a shelter The disease has now become quiescent the sputum (which when the patient was first seen was swarming with bacilli) gradually became less, almost negligible in amount and favourable progress has been uninterrupted. Nov 4th, 1915 Note good over both lungs Breath sounds good with no evidence of active disease Had gained 3½ stone. Chest measurement now 45 inches

In the middle of February, when the patient was just beginning to improve, several continuous records were obtained, of which Fig 34 may be taken as a good type Somewhat high, about 99° F, between 10 A.M and 2 P.M it was extremely unstable at 5 P.M, an hour after tea it rises to 99 5°, and then falls steadily to 97 1° at 5 30 A.M, the lower part of the curve only having the wavy line characteristic of instability The rise to 99° takes place as early as 10 A.M. A glass of cold milk taken at 11 A.M brings down the temperature 0 3°

FIG 34



Case 5 Feb 12th-13th, 1915. Rectal.

The Effect of Exercise

In some few of our charts, especially those commenced almost immediately after the tuberculous patient has ceased work, it has been noted that the rectal temperature, even after fairly vigorous exercise, may give no indication of any marked rise. Bardswell and Chapman[22] note, too, that at certain periods of the day and in certain types of patient the temperature may be actually lower than when the subject is at rest and taking no exercise We can corroborate this and also that the rise of temperature which follows exercise may not in itself be an indication of "auto inoculation" of the patient

In our experience instability of temperature is a far more important indication of auto inoculation or of a tuberculin reaction than is the mere amount of the rise, and this especially when the characteristic plateau temperature with its minor elevations and depressions is a feature of the record One observer, Weinert,[23] sets himself the task of combating the idea that a rise of temperature after exercise in a presumably tuberculous patient is of any special or supplementary diagnostic value He maintains, indeed, with Zuntz and Benedict that the strength of the individual determines the value of exercise in raising the body temperature The rise of temperature, he holds, is more marked in cases in which there is muscular weakness and want of training, and is the result of a poorly constituted and badly trained heat-regulating system far more than of auto inoculation by natural tuberculin. To Weinert we are indebted for the very interesting observation that long periods of lying in bed and rest cure, lowering the muscular activity and heat regulatory system of the patient, induce a condition in which the temperature rises easily and rapidly after even the most gentle exercise

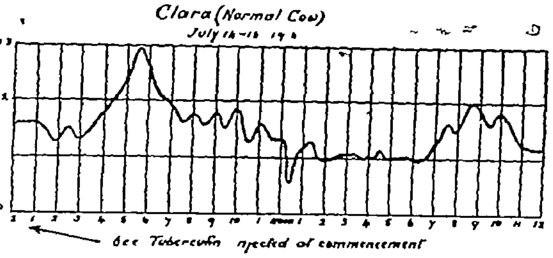
It is pointed out that the rectal temperature is probably specially high after walking because of the activity of the large pelvic muscles, and because heat escapes less rapidly from this region than from the axilla and the mouth

Moreover, walking is the form of exercise usually prescribed for the tuberculous and non tuberculous patient alike, and a rise of rectal temperature may be looked for in both. Consequently, taken alone, this rise is not necessarily any confirmation of a diagnosis of tuberculosis, and the character of the 24 hour continuous temperature record comes in to give us information that cannot be acquired by a use of the mercurial thermometer

IMPORTANCE OF 24 HOUR TEMPERATURE RECORD IN TUBERCULIN TEST IN CATTLE

Elsewhere[24] we have insisted upon the importance of obtaining a continuous temperature record when carrying out the tuberculin test in cattle, and have given a full account of the details to be attended to in making such a test Here it must suffice to give a record of the action of a full diagnostic dose of tuberculin upon healthy and tuberculous cattle It is evident that in the healthy cow (Fig 35) the rise of temperature following the administration of a *full dose* is very slight, that the rise appears at the next milking, feeding, and watering period, between five and six hours after the injection, that it lasts for a short time only, and that at no time does it exceed 0 2° F beyond the temperature recorded the preceding day There was no repetition of the rise on the succeeding *day at the corresponding hour*, the temperature remaining normal A calf similarly treated gave similar results Tuberculin in full diagnostic doses, then, exerts but a very slight and transient effect upon healthy bovines of whatever age

FIG 35.



Record from healthy cow injected with a full test dose of tuberculin

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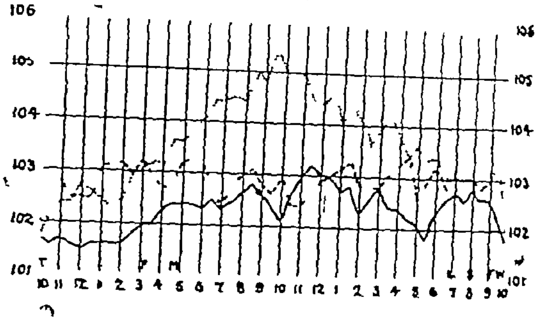
The temperature curve of a tuberculous animal to which a similar dose of tuberculin is administered is, however, as in the human subject, absolutely characteristic In order to demonstrate this as clearly and conclusively as possible, we first tested the tuberculin reaction of a calf that had been rendered tuberculous for experimental purposes After a 24 hour temperature record had been obtained, 6 c c of tuberculin was injected subcutaneously, and during the succeeding 48 hours a continuous temperature record was made The records so obtained are combined in Fig 36, in which we have first the pretuberculin temperature record, then that after the injection of tuberculin at 10 A.M —a most characteristic tuberculin curve Immediately after the injection of the tuberculin comes a rapid rise—1 2° F —beyond the temperature recorded at the corresponding hour, noon, the previous day—i e , there is within a couple of hours a considerable interval—1 2°, between the *normal* and tuberculin curves An hour and a half later the difference between the corresponding time points on the two curves is only 0 8° At 9 30 P M , 11½ hours after the injection of the test dose, the temperature has reached 105 3° and the difference between the normal and the tuberculin temperatures is 2·8 Then, although the temperature of the tuberculinised calf falls to 105° during the next half hour—i e , just 12 hours after injection—the difference between the pre and post-tuberculin temperatures has risen to 2 9° From this point onwards the tuberculin temperature curve assumes a very *interesting form* In a very definite, though not regular, falling line we have until 6 30 A.M a series of upward peaks or teeth Then for an hour it remains almost stationary, but after this there is a *further fall of 0 2°*, due apparently to the ingestion of food, the temperature of which is below that of the body From 8 30 to 9 30 A.M there is a rise of 0 6°, but immediately following the watering of the animal there is a *fall* of 1 4°, this indicating a very marked instability of the temperature, even 24 hours after the exhibition of the tuberculin

FIG 36



Calf No 1 (T B) May 14th–17th 1914 1 Continuous line = pretuberculin curve 2. Dotted line = post-tuberculin curve 3 Dashed line = late post-tuberculin curve

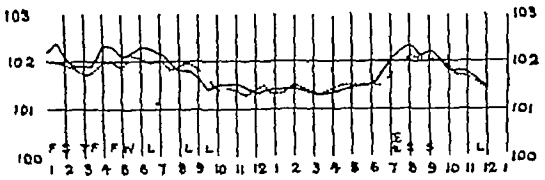
In view of this continued instability it was decided to continue the record for a second 24 hour period It was then found that even at the end of that period the unstable condition continued Further, the temperature was not only unstable, it remained at a markedly higher level than that attained in the *pretuberculin period It is a feature of special interest that not only was the* mean temperature higher than normal even in the second 24 hours of the post-tuberculin period, but the variations were far more marked than in any period and under any conditions in which the animal was placed in the pretuberculin 24 hour period The temperature was in a state of unstable equilibrium, was easily and profoundly affected by any of the factors that ordinarily set up far less marked, though, as above *noted*, distinct variations

So marked is this feature that in a previous paper[25] we "insist that evidence of a tuberculin reaction is to be sought, not in the number *of* degrees recorded, or even in the *difference in* temperature at single intervals in the pre and post tuberculin periods [important though these undoubtedly are], but in the nature of the two curves as a whole, and when studied together To begin with, far more marked fluctuations, especially as the result of exercise and of watering, are met with in the post than in the pre tuberculin period, whilst a feature that distinguishes most markedly the tuberculin temperature curve in a tuberculous animal from that in a 'normal' animal is the distinct, though 'intermittently continuous' rise, and the equally 'intermittently continuous' fall"

What Constitutes a Positive Reaction?

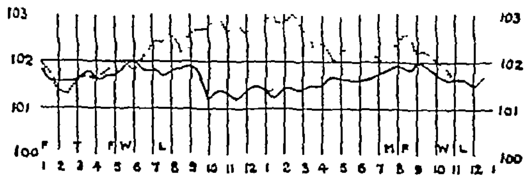
Having obtained such marked and characteristic reactions in the tuberculous calf, and in order to submit our provisional conclusions to a practical test, we determined to experiment on an adult animal, a cow, that we looked upon as being tuberculous (it had some months previously been injected with a full dose of tuberculin and the temperature had been taken at four hour intervals with a mercury clinical thermometer) Some doubt, however, existed as to the accuracy of the diagnosis, and we certainly had no information as to how the animal was supposed to have contracted the disease A couple of 24 hour records were obtained before the tuberculin was injected (Fig 37), and the curves were practically identical, only the normal variation appearing in each At 3 P M a full dose of 6 c c of tuberculin was again given Three hours later the temperature began to rise in the characteristic "wavy or "toothed" fashion (see Fig 38), reaching a maximum—103° F—six hours after the injection Although there followed a slight fall, a kind of plateau line was maintained, but with small remissions, until 2 30 A.M Though remaining high for a night temperature, it then fell in a series of diminishing waves until at noon it had reached its normal level and there continued

FIG 37



Cow X (T B) May 1st-6th 1914 Continuous line = pre-tuberculin curve first 24 hours Dotted line = combined pretuberculin curve—two 24-hour records

FIG 38



Cow X (T B), May 1st-6th 1914 Continuous line = pre-tuberculin curve Dotted line = post-tuberculin curve

Were we to consider this a "positive tuberculin reaction"?

It is usually accepted that a reaction should be considered positive if there is a rise of temperature of 1 6° F above the maximum of the two *preceding* days—i e, we adopt a relative standard All these observations accord well with what we have observed in the human tuberculous subject, in whom even very small doses of tuberculin produce very great instability of temperature *So noticeable* is this, indeed, that we feel justified in accepting this feature, along with the steadily rising and then falling curve, as constituting even more important diagnostic factors than the actual rise of temperature at any one point

Injections of tuberculin into normal bovine animals[96] are followed by a rise of 0 8° C (1 4° F) or more in only 12 per cent of the cases so treated A rise of 0 9° C (1 62° F) or more was recorded in 5 cases only, or 4 *per cent* of a whole series Applying these figures to the test now under consideration, we should be compelled to admit that at the end of the first 4 hours there is no appreciable reaction, and that for the next 10 hours there are only five half hour periods in which there is a distinct tuberculin temperature reaction One occurs at 10 30 P M, 7½ hours after injection, and would be missed in any series of four hourly observations, and four between 12 30 A M to 4 30 A M, again half an hour before the third four hourly period usually allotted to the taking of the temperature When, however, we come to study the complete record, and note the difference between the highest temperature reached and the temperature at the corresponding time of the previous day, we may well be satisfied that the reaction is "positive"—i e, in the normal and tuberculin diurnal curves the difference in temperature at the corresponding points on the curves exceeds the amount set up by the members of the Royal Commission on Tuberculosis as the standard for a positive reaction, especially as it is evident that this excessive difference really extends over several hours, and we must come to the conclusion that the cow was tuberculous

The Normal Diurnal Variation

This brings us to the question, How far must the normal diurnal variation be taken into consideration when interpreting the "tuberculin temperature" in fixing a standard for a "positive tuberculin" test?

In the first place it is evident that the normal diurnal variation may not be without effect upon the tuberculin temperature, and this being the case the time at which the tuberculin is injected cannot be considered to be a matter of indifference when we are called upon to determine whether we have a positive reaction or not The conclusions at which we have arrived as a result of our observations incline us to agree with Cobbett and S Griffith[97] that the test injection may be so timed that the maximum rise of temperature caused by the tuberculin will coincide with the maximum rise due to the normal diurnal variation In such a case we should, of course, expect a greater total rise of temperature than when the upward movement caused by the tuberculin is neutralised by one or more of the several causes of the diurnal downward variation Bearing this in mind, we are bound to recognise that it may be necessary for us to revise our interpretations of these temperature records, especially in "doubtful" reactions It may not be, and probably is not, sufficient to rely on the chance of obtaining the difference between the maximum temperature for the 24 hours preceding the injection of tuberculin and that of the succeeding 24 hours

The temperature at each period would have to be compared with those taken at the corresponding periods during the 24 hours after injection—i e, the highest temperature obtained after injection would have to be compared with the temperature attained at the corresponding time in the preceding 24 hours, a comparison impossible of attainment without having access to continuous or quasi continuous records, for although it is known that the maximum temperature after an injection of tuberculin is usually attained between the sixth and twelfth hours, important exceptions to this rule are often met with, and it is obviously out of the question with an ordinary clinical thermometer, even when the temperature is taken at four hourly intervals, to be sure of 'catching' the temperature at its maximum And even were this attainable, it would still be impossible to determine the point of time in the preceding 24 hours with which to make a comparison Indeed, from a study

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Moreover, walking is the form of exercise usually prescribed for the tuberculous and non tuberculous patient alike, and a rise of rectal temperature may be looked for in both. Consequently, taken alone, this rise is not necessarily any confirmation of a diagnosis of tuberculosis, and the character of the 24 hour continuous temperature record comes in to give us information that cannot be acquired by a use of the mercurial thermometer

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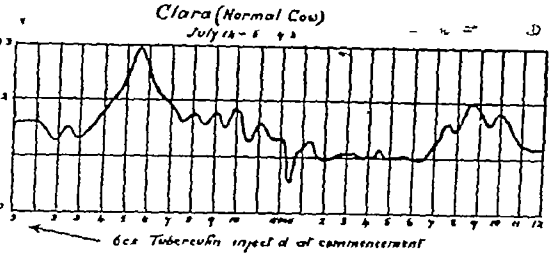

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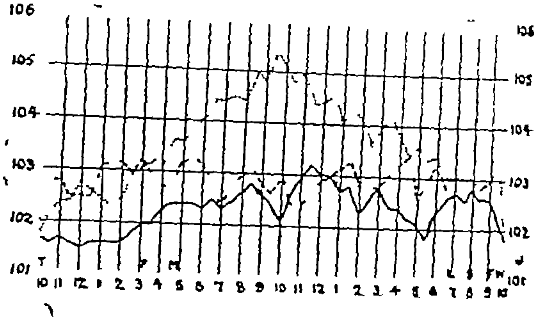
FIG 36



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TABULAR STATEMENT OF ABDOMINAL GUNSHOT INJURIES.

Operation or injury	Rec.	Died	Remarks
Suture of stomach.	9	7	Anterior wall 8; anterior and posterior walls 5; near œsophagus 1; great curvature, 1; cardia, 1; serous and muscular coats only 1. Fatal cases: Peritonitis 1; primary hæmorrhage 4; unnoted wound near œsophagus 1; gas gangrene 1.
Suture of stomach and small gut.	—	2	Lesions in small gut, 3, 5; anterior and posterior walls 1; double perforation anterior wall, 1.
Suture of stomach, resection of small gut, gastro-jejunostomy.	—	2	—
Suture of stomach, resection of small gut, gastro-jejunostomy, artificial colon anus.	—	1	Lateral anastomosis of small gut. Five lesions of small gut; stomach divided; transverse colon divided.
Suture of stomach, artificial colon anus.	—	1	Anterior and posterior wounds of stomach.
Suture of stomach and small gut, gastro-jejunostomy.	—	1	Duodenum torn. Penetration of anterior stomach wall 3; liver and kidney ruptured 1.
Resection of small gut, circular enterorrhaphy.	11	33	Number of lesions: M.,* M., 6, 4, 3, M., 3, 7, 8, 6, 3, 3, 9, 12, 5, 4, 1, 6, 9, 1, 4, 4, 5, M., M., 3, M., 4, 2, 15, M., M., M., 1, 5, 2, 4, 7, 9. Inches resected: 8, 4, 48, 72, 24, 6, 36, 18, 30, 6, 24, 108, 48, 48, 4, 18, 24, 32, 12, 18, 24, 28, 36, 36, 36, 30, 24, 15, 6, 24, 18, 16, 10, 12, 6, 30, 18, 3, 23. Secondary short-circuit for obstruction, fatal, 2; double resection, fatal, 4; gangrene of thigh, fatal, 1; bladder also wounded 3; iliac vein torn also 1; serous coat of colon sutured also 1.
Resection of small gut, lateral suture.	2	5	Lesions M., 6, 8, 8, 4, 12, 3. Inches resected 144, 12, 96, 4. To transverse colon, 1; to ascending colon 1. Double resection, fatal 1; ureter wounded, recovered, 1.
Resection of small gut, artificial colon anus.	1	4	Lesions M., 6, 3, 8. Inches resected 114, 12, 12. Pelvic colon 2; transverse colon, 1.
Resection of small gut, suture of colon.	—	3	14 lesions in small gut and 4 in colon 1; 8 in small gut and multiple in colon, 1.
Resection of small gut, suture of cæcum.	—	1	—
Resection of small gut, suture of rectum.	—	2	Lesions in small gut, 7; 18 inches resected, 1.
Suture of small gut.	14	11	Number of lesions 3, 1, 1, 5, 5, M., 3, 2, 3, 2, 2, 1, 5, 1, 1, 1, 1, 3, 2, 7, 1. Duodenum, fatal, 2. Large prolapse of intestine 2. Secondary short-circuit recovered 1.
Suture of small gut, suture of colon.	—	3	Hepatic flexure 1; transverse and descending colon, 1; transverse colon 1.
Suture of small gut, suture of cæcum.	—	1	—
Small gut anus.	—	4	—
For small gut fistula.	2	1	Opening external wound.
Suture of small gut, artificial colon anus.	1	—	Pelvic colon.
Suture of cæcum.	4	—	—
Cæcal anus.	2	3	—
Suture of colon.	11	13	Ureter also injured, 2 (both pelvic colon cases). Spleen and liver ruptured, fatal, 1.
Artificial colon anus.	6	17	Ascending 6; hepatic 5; splenic, 3; iliac, 1; pelvic, 5; descending 2; spleen and kidney removed, fatal 1; iliac vein torn 1.
Proximal colostomy.	2	3	For wounded rectum, 4; splenic flexure wounded, 1; spleen perforated, fatal, 1; bladder wounded also 1.
Cœliotomy. No hollow viscus perforated.	28	11	Bleeding point found 9; colon bruised, 8. Fatal cases: paraplegia, 1; continued hæmorrhage 1; iliac vein torn, 2; vena cava torn and ligated 1; extensive retroperitoneal hæmorrhage 1; marked intestinal distension 1; gas gangrene, 1.
Prolapse of viscera.	6	3	Stomach and colon 2; stomach, spleen, colon and small gut 1; small gut 1; colon, 4.
Loss of abdominal wall.	—	1	Stomach exposed.
Contusion of abdomen.	—	2	By shell fuse; jejunum ruptured, resection, 1; bladder 1.
Tube to pelvis.	—	2	Too bad for further exploration.
For fæcal abscess.	1	6	Intraperitoneal.
Drainage of loin wound.	1	1	—
For wounded liver.	31	11	Fatal cases: gas infection, 1; multiple body injuries 1; kidney also injured 2; retroperitoneal, 1; biliary empyema, 1; jaundice, 5; biliary peritoneum 1; cystic duct torn, 1.
Pancreas, exploration of.	—	1	In course of exploratory cœliotomy.
Kidney, excision of.	—	—	See "Spleen, excision of," *infra.*
Kidney, exploration of.	1	—	Peritoneal toilette. See also Liver 2 and Suture of stomach 2.
Kidney, wounded.	—	—	See "No operation," *infra.*
Kidney, loin exploration of.	1	—	—
Spleen, excision of.	1	4	Kidney removed also 2. See also "Colon, artificial anus, fatal 1."
Spleen, suture or packing of.	2	—	Stomach bruised also 1.
Spleen, exploration of.	—	1	Death from hæmorrhage. See also "Proximal colostomy."
Bladder, suture of.	2	—	—
Bladder, suprapubic drainage of.	4	6	See also "Proximal colostomy" and "Resection of small gut 3." Iliac vein torn, fatal 1.
Ureter, wound of.	—	—	See also "Resection of small gut, lateral suture 1" and "Suture of pelvic colon 2."
No operation: absence of indication.	55	1	Liver probably wounded 15. Kidney wounded 4. Omentum prolapsed 3. Fatal case developed hæmothorax and septicæmia.
No operation: moribund.	—	145	Post-mortem examination, when performed, showed the following lesions: multiple lesions of small gut, 15; stomach and liver 1; spleen, stomach, pancreas, and liver 1; ruptured spleen 1; colon wounded 4; rectum 1; liver 1; internal iliac vein 1; bladder also wounded 2.
	198	313	
	511		

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* M. = Multiple injuries.

of any of our charts it is evident that, using the four hourly method of taking temperatures with the ordinary clinical thermometer, it is not difficult, nay, it is a very easy matter, for the observer to miss a rapid rise or fall—a rise or fall which occurs time after time in every temperature curve yet obtained by us in carrying on our tuberculin experiments

CONCLUSION

We recognise that in the rough and very imperfect sketch of the history of thermometric methods, and the scanty matter we have used to illustrate the value of the quasi continuous temperature record, we have left much room for criticism and improvement Our object, however, was, after giving a short résume of the history of the clinical thermometer in its various forms to indicate the value of these continuous records in the study of the temperature phenomena that are already considered to be of importance, as indications of the presence of various disease processes This we considered would be best done by giving a series of charts from normal individuals, from tuberculous patients, human and bovine, suffering from uncomplicated tuberculosis, and from tuberculosis combined with septic mischief, from tuberculosis in which the natural absorption of tuberculin has been induced, and from tuberculosis in which a tuberculin reaction from artificial injection of tuberculin has been set up Our interpretations may be erroneous, but the records are there to be studied by those who are interested and whose experience and knowledge will enable them to give opinions of value

In the course of our work we have become convinced that there is still much to be learned from a close study of continuous thermometric records taken from cases suffering from diseases of which the clinical symptom complexes are similar, but of which there are now and again slight, or in some cases even marked, differences

Thus we are now satisfied that much is to be learned from a study of a series of temperatures taken from groups of cases of (1) Pneumonia and enteric fever, (2) enteric or typhoid fever and the paratyphoids A and B, (3) the paratyphoids A and B, (4) dysentery and the paratyphoids, (5) the "septic" groups, and (6) epidemic cerebro spinal fever, and certain other acute fevers, tuberculosis, &c

Much has still to be determined in regard to the normal temperature under different conditions, whilst the action of such drugs as alcohol, chloroform and ether, curari, opium, quinine and the antipyretic drugs in their effect upon the body temperature offers a wide and interesting field in which to carry on investigations that promise a rich yield Another field in which this apparatus may be of use is the study of the temperature of the various nerve lesions, whether central or peripheral

The influence of rest, of clothing, of bathing hot and cold, of external temperature generally, has still to be determined, and we are anxious that the work should now be taken up by others The apparatus, though apparently complicated, is strong and well made, it does not get out of order readily, it is easily worked and the range of temperature that can be recorded is in the most recent form of the instrument very great indeed, and this without "cramping" the record in the slightest degree

We have at present four of these apparatus at work, three in the Tuberculosis *Colony* at Bourn and one in a large general military hospital where the medical officers are studying the effects of continuous constant temperature baths on the general and temperature condition of patients suffering from large open septic wounds Another apparatus has been supplied to a distinguished physician for use in a base hospital in France, and we look forward with interest to an examination of the results there obtained In work of this nature, whether in the construction of new apparatus or the carrying out of the detail of its application and use over long periods, we are naturally very dependent on the help of others That help we have had placed at our disposal fully and freely, and we now wish to acknowledge our indebtedness for such help, first to the Cambridge Scientific Instrument Co, who have continued to us the invaluable help and advice which, as we learned from the late Professor Gamgee, they extended to him Whether carrying out our suggestions or giving to us out of the abundance of their technical skill, knowledge, and experience, they worked willingly and gave ungrudgingly From Mr Horace Darwin and Mr R Whipple downwards we received nothing but courtesy and kindness To Mr W A. Mitchell, our laboratory assistant, we owe our hearty thanks, not only for the care and skill with which he has carried out much of the work of some of the experiments, but for many valuable practical suggestions as to improvements of detail. Without his aid the work would necessarily have been greatly delayed To Mr F G Binnie we are indebted for invaluable help in our search through the literature to which we have had access, and for the verification of many of the references quoted Without his help, especially since the war began, we should have been in a sorry plight indeed Finally, we must not omit to thank Mr Horace Gillings and Mr Victor Norfield for the reduction of the charts and drawings to a scale in which they could be reproduced in the hospitable columns of THE LANCET

Bibliography (Part V)—92. Bardswell (N D) and J E Chapman: Some Observations upon the Deep Temperature of the Human Body at Rest and after Muscular Exertion, *Brit Med Jour*, 1911 vol. i p 1106. 93 Weinert, A.: Ueber Temperatursteigerungen bei gesunden Menschen (Dissertation) Heidelberg 1912; Ueber Rektale Temperatursteigerungen Münch *Med. Wochenschr* 1913 lx. p 1542. 94 Journal of Comparative Pathology and Therapeutics Edinburgh and London, 1915 vol xxviii p 337 et seq 95. *Loc. cit.* p 353 96 L. Cobbett and *A. Stanley Griffith*: *Royal* Commission on Tuberculosis Final Report, Part II Appendix. Supplemental Volume. Report on Tuberculin Tests, London, *1913 p 13* 97 *Loc.* cit. p 14

A TABULAR STATEMENT OF 500 ABDOMINAL GUNSHOT INJURIES

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IN an article on the Early Operative Treatment of Gunshot Wounds of the Alimentary Canal which appeared a few weeks ago in THE LANCET,[1] a promise was made to publish the results when a sufficient number had been collected The table has been compiled to show primarily the nature of the operation performed Under the "Remarks" column an attempt has been made to indicate to some extent the nature of the injury

The cases from which the table is made comprise all the abdominal injuries from a certain sector of the line which reached a casualty clearing station or a field ambulance fitted for abdominal work The period included both times of quiet and

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[1] THE LANCET Dec. 18th 1915 p 1336

Tabular Statement of Abdominal Gunshot Injuries

Operation or injury	Base	Died	Remarks
Suture of stomach	9	7	Anterior wall 8 anterior and posterior walls 5 near œsophagus 1 great curvature 1 cardia, 1 serous and muscular coats only 1. Fatal cases: Peritonitis 1 primary hæmorrhage 4 unnoted wound near œsophagus 1 gas gangrene, 1
Suture of stomach and small gut		2	Lesions in small gut 3 5 anterior and posterior walls 1 double perforation anterior wall 1
Suture of stomach resection of small gut gastro-jejunostomy	—	2	——
Suture of stomach resection of small gut gastro-jejunostomy artificial colon anus	—	1	Lateral anastomosis of small gut Five lesions of small gut stomach divided transverse colon divided
Suture of stomach artificial colon anus	—	1	Anterior and posterior wounds of stomach
Suture of stomach and small gut gastro-jejunostomy	—	1	Duodenum torn Penetration of anterior stomach wall 3 liver and kidney ruptured 1
Resection of small gut circular enterorrhaphy	11	33	Number of lesions: M * M 6 4 3 M 3 7 8, 6, 3 3 9 12, 5 4 1 6, 9 1 4 4 5 M., M 3 M. 4 2. 15, M., M M. 1 5 2, 4 7 9 Inches resected 8, 4 48, 72, 24 6 36 18 30 6, 24 108, 48, 48, 4 18 24 32, 12, 18 24 26 36 36 36, 30 24 15 6 24 18, 18, 10 12, 6 30 18 3 23 Secondary short-circuit for obstruction fatal 2 double resection fatal 4 gangrene of thigh fatal 1 bladder also wounded 3 iliac vein torn also 1 serous coat of colon sutured also 1
Resection of small gut lateral suture.	2	5	Lesions: M 6, 8, 8. 4 12 3 Inches resected 144 12, 96, 4 To transverse colon 1 to ascending colon 1. Double resection, fatal, 1 ureter wounded, recovered, 1
Resection of small gut artificial colon anus	1	4	Lesions M 6, 3 8 Inches resected 114 12, 12. Pelvic colon 2 transverse colon, 1
Resection of small gut suture of colon	—	3	14 lesions in small gut and 4 in colon, 1 8 in small gut and multiple in colon 1
Resection of small gut suture of cæcum	—	1	——
Resection of small gut suture of rectum	—	2	Lesions in small gut, 7 18 inches resected 1
Suture of small gut	14	11	Number of lesions 3, 1 1, 5 5 M 3, 2, 3 2, 2, 1 5, 1 1 1 1 3 2, 7 1 Duodenum fatal 2. Large prolapse of intestine 2. Secondary short-circuit recovered 1
Suture of small gut suture of colon	—	3	Hepatic flexure 1, transverse and descending colon 1 transverse colon 1
Suture of small gut suture of cæcum	—	1	——
Small gut anus	—	4	——
For small gut fistula.	2	1	Opening external wound
Suture of small gut artificial colon anus.	1	—	Pelvic colon
Suture of cæcum	4	—	——
Cæcal anus	2	3	——
Suture of colon	11	13	Ureter also injured, 2 both pelvic colon cases. Spleen and liver ruptured fatal, 1
Artificial colon anus	6	17	Ascending 6 hepatic 5 splenic, 3 iliac, 1 pelvic, 5 descending 2 spleen and kidney removed fatal 1 iliac vein torn 1
Proximal colostomy	2	3	For wounded rectum 4 splenic flexure wounded, 1 spleen perforated fatal 1 bladder wounded also 1.
Cœliotomy No hollow viscus perforated	28	11	Bleeding point found 9 colon bruised 8 Fatal cases paraplegia, 1 continued hæmorrhage, 1 iliac vein torn, 2 vena cava torn and ligated 1 extensive retroperitoneal hæmorrhage 1 marked intestinal distension 1 gas gangrene 1
Prolapse of viscera	6	3	Stomach and colon 2 stomach, spleen colon and small gut 1 small gut 1 colon 4
Loss of abdominal wall	—	1	Stomach exposed
Contusion of abdomen	—	2	By shell fuse jejunum ruptured, resection 1 bladder, 1
Tube to pelvis	—	2	Too bad for further exploration.
For fæcal abscess	1	6	Intraperitoneal
Drainage of loin wound	1	1	——
For wounded liver	31	11	Fatal cases gas infection, 1 multiple body injuries, 1 kidney also injured 2 retroperitoneal, 1 biliary empyema, 1 jaundice, 5 biliary peritoneum 1 cystic duct torn 1.
Pancreas exploration of	—	1	In course of exploratory cœliotomy
Kidney excision of	—	—	See Spleen excision of " infra
Kidney exploration of	1	—	Peritoneal toilette See also Liver 2 and Suture of stomach 2
Kidney wounded	—	—	See No operation " infra
Kidney loin exploration of	1	—	——
Spleen excision of	1	4	Kidney removed also, 2. See also Colon artificial anus fatal 1 "
Spleen suture or packing of	2	—	Stomach bruised also 1
Spleen exploration of	—	1	Death from hæmorrhage See also Proximal colostomy "
Bladder suture of	2	—	——
Bladder suprapubic drainage of	4	6	See also Proximal colostomy " and Resection of small gut 3 " Iliac vein torn fatal 1 "
Ureter wound of	—	—	See also Resection of small gut lateral suture 1 " and Suture of pelvic colon 2 "
No operation absence of indication.	55	1	Liver probably wounded 15 Kidney wounded, 4 Omentum prolapsed 3 Fatal case developed hæmothorax and septicæmia.
No operation moribund	—	145	Post mortem examination when performed, showed the following lesions multiple lesions of small gut, 15 stomach and liver 1 spleen, stomach pancreas and liver 1 ruptured spleen, 1 colon wounded 4 rectum 1 liver 1 internal iliac vein 1 bladder also wounded 2.
	198	313	
	511		

* M = Multiple injuries.

of strenuous fighting The series may therefore be said to be a representative one The two abdominal hospitals were about 5000 yards from the fighting line At these arrived many cases which would never have reached a casualty clearing station This fact has raised the total mortality 5 per cent above that which it would have been had the two abdominal hospitals been excluded

It may seem paradoxical, but, within limits, the nearer the surgeon gets to the firing line the worse will be his total mortality, and perhaps even his operative mortality

The main facts may be summarised as follows —

Total number of cases	511
Arrived moribund	145
Total mortality, excluding the moribund	45 8%
Total mortality, including moribund	61 25%
Considered with view to operation	366
No operation considered advisable	56
Total operations	310
Total operative mortality	53 9%
Total hollow viscera mortality	64 5%
Stomach (uncomplicated) mortality	43 75%
Small gut ,, ,,	63 8%
Great gut ,, ,	60 0%

The following table (which is to be considered only approximately correct) gives the number of times that the different viscera were injured The unoperated cases are not included —

	Alone of hollow viscera.	With other hollow viscera.	Total
Stomach	16	7	23
Small gut	69	21	90
Great gut	61	12	73
Liver*	—	—	48
Spleen	—	—	11
Kidney	—	—	13
Bladder	—	—	13
Ureter	—	—	3
Pancreas	—	—	1

* To the 48 cases another 15 cases should be added in which the liver was almost certainly injured but in which no operation was perf rmed

Small gut—Resection has a higher mortality than suture, but this is merely the result of the initial injury The effect of increased injury is well seen in the rise of the mortality, whether after suture or resection, when other viscera are involved

The actual junction line has rarely given trouble There were three cases of obstruction due to non toxic paralysis Suture is to be preferred to resection except when there is a distinct saving of time by the latter method The unpared edges heal well after suture, there seems no reason to fear sloughing on account of any commotion caused by the projectile

A most striking thing about the soldier's small intestine is its emptiness—a great contrast to the loaded state of the great gut

Stomach wounds—Of 23 stomach wounds only 11 were uncomplicated by other lesions The anterior wall was most often involved The "typical" antero posterior epigastric wound was not common Extrusion of stomach contents was fairly frequent and depended on the time of the last meal

Of the 7 fatal cases uncomplicated by wounds of other hollow viscera 4 died from the results of primary hæmorrhage Reading the notes on the cases while making this table has impressed my mind with the seriousness of wounds in the epigastric region and I am still inclined to advocate operation in all cases Hæmorrhage is evidently to be feared here as in wounds in other regions

The escape of the spleen in stomach injuries is so marked as to suggest that many such injuries never reach the surgeon

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DIAGNOSIS OF FEVERS AMONG THE MEDITERRANEAN EXPEDITIONARY FORCE

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LIEUTENANT R.A M.C (T F) MEDITERRANEAN EXPEDITIONARY FORCE
LATE PHYSICIAN AND CLINICAL PATHOLOGIST TO THE UNION MEDICAL COLLEGE, PEKING

WHEN a patient from the Mediterranean has continuous fever without obvious cause, such as pneumonia, diphtheria, &c., the diagnosis nearly always lies between enteric fever (typhoid or paratyphoid), malaria (double tertian or æstivo autumnal), and amœbiasis

The commonest form of amœbiasis with fever is the condition described in 1907 by Rogers and called by him "presuppurative amœbic hepatitis" The name exactly describes its nature It is very common, but it is also very commonly mistaken for something else The clinical signs are most misleading, though nothing is easier to detect and cure when the physician is familiar with it It is also of immense importance, as it sooner or later, after 24 hours or after many months with remissions, may develop into a liver abscess It has two, and only two, constant features—fever and leucocytosis of a peculiar type The other symptoms and signs any or all of which may be absent or so slight as to be overlooked, or may very easily be attributed to other conditions, are as follows —

1 Upward enlargement of the liver This affects the relative dullness much more than the absolute and may be impossible to detect, except by comparison with the limits of dullness before onset

2 Liver pain and tenderness This, taken in conjunction with the impairment produced by the upward enlargement of the liver, closely simulates basal pleurisy, nearly always on the right side The

weak breathing and the impairment over the upper parts of the relaxed lung are most deceptive, and a diagnosis of pulmonary disease is the rule There may be actual pleurisy with friction sounds, though this usually means that a liver abscess is invading the lung Pain at the diaphragmatic surface is felt at the point of the right shoulder and down the arm This symptom, misleading if not understood, is practically diagnostic Pain may be entirely absent or may amount only to slight discomfort when lying on the left side

3 Tenderness over the liver or epigastrium is more common than pain, but may be entirely absent

It is all important to realise that amœbic hepatitis may *often* be present with no localising symptoms whatever The fever is usually remittent by 1 5° or 2°, but it may take any form high continued, low continued, or "relapsing" With the remittent type there are usually sweats, sometimes rigors

Liver abscess cannot be distinguished with certainty from hepatitis unless there is a localised epigastric swelling, except by exploration or X rays No other symptom—not even cutaneous œdema—is *conclusive proof of* suppuration Therefore a suspected case of liver abscess should usually be treated with emetine for 18 hours before operation is undertaken When an abscess has formed the only justifiable treatment is aspiration with a Potain bottle A culture should be taken at once and a thorough course of emetine treatment given. Quinine or emetine may be injected direct into the cavity, but this appears to be unnecessary No drainage is required Failure of this treatment is due to 1 A second abscess, which may burst into the first cavity, which should first be *explored* 2 Septic infection The culture will decide this, 85 per cent are sterile before operation 3 Insufficient emetine For all *ordinary cases* of amœbiasis, whether of liver or intestine, ⅔ grain twice a day for six days is the proper and sufficient dose Smaller doses often succeed, but cannot be relied on in every case In very severe dysentery Rogers gives 1 grain in 5 c.c of saline intravenously, injecting slowly 4 Intercurrent disease Amœbic conditions not uncommonly appear during the incubation of enteric fever, and any disease or operation, especially with hæmorrhage may induce an attack of malaria in an infected subject

No importance whatever attaches to the absence of a history of dysentery Too *often* even physicians refuse to diagnose dysentery apart from hæmorrhage, whereas amœbic diarrhœa is exceedingly common and may last for months, with remissions, without a speck of blood appearing Further hepatic complications most commonly follow on ulceration of the cæcum, and if as often happens the inflammation is confined to this end of the gut, there is no diarrhœa at all The symptoms then are either a daily soft motion if the mucous membrane is affected, or pain much like that of appendicitis, sometimes with constipation if the process spreads towards the peritoneum In nearly 30 per cent of his cases of liver abscess in natives Rogers obtained no history of dysentery and in 14 per cent none of any bowel disturbance though post mortem 98 per cent showed ulceration or scarring Amœbæ may be absent from the stools

The following maxims are therefore applicable to patients from the Mediterranean —1 Any Mediterranean patient may have amœbiasis of the liver apart from any history of bowel trouble 2 Appendicitis in the Mediterranean is likely to be amœbic 3 Any diarrhœa with semi solid motions is likely to be amœbic 4 'Colitis" should never be diagnosed till emetine has failed to cure 5 "Right basal pleurisy" is usually amœbic liver 6 'Lumbago" with fever is usually amœbic hepatitis 7 Pain in the right shoulder with fever is diagnostic of amœbic liver 8 'Liver abscess' should be first tried with emetine alone 9 It is criminal to open a liver abscess unless it is already septic 10 It is criminal to fail to give emetine after aspirating or opening a liver abscess 11 A history of emetine treatment does not exclude amœbiasis unless you *know* it was adequate

With this preliminary description of amœbiasis we come to the differential diagnosis of fevers without obvious cause As already stated they are usually enteric, malaria, or amœbiasis When these have been excluded, we have to think of Malta fever, kala azar, and tuberculosis

The first line of examination is the blood count Of these six conditions amœbiasis alone has constantly a leucocytosis I have twice found a leucocytosis over 13,000 during the first paroxysms of an attack of benign tertian malaria, but it soon disappears Uncomplicated enteric fever has a leucopenia Malta fever, kala-azar, and tuberculosis (except tuberculous meningitis and occasionally pleurisy) are like enteric fever in this

The next examination is the blood film A diagnosis of liver amœbiasis is confirmed if the percentage *of polymorphonuclear* cells is lower than it would be in an ordinary inflammatory leucocytosis of the same degree In this condition *it is often* about 75 with a high count, and rarely exceeds 80 Malaria will be distinguished from anything else by discovery of the parasite If this is difficult to find, a strong suspicion will be aroused by a high proportion of large mononuclear cells Of ordinary blood these are about 2 to 4 per cent, in malaria 15 *to* 20 per cent is a common count This is also found in kala azar

In the great majority of cases malaria or amœbiasis will be found or excluded by these examinations, which can all, except the search for the parasite, be carried on with a 1/6 inch lens, and by the use of the Wright saline diluent the absolute and differential counts may be done at the same time It is important to base the absolute count on not less than 100 cells, and the differential on not less than 300

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While these examinations are [illegible] enough to determine the diagnosis, examination of the fæces and serum must also be made unless the fever disappears at once on treatment In pure amœbiasis or malaria it will disappear, if it continues the case is probably one of enteric, and it must never be forgotten that double infections are common If examination of the stools discovers dysenteric amœbæ it is no proof that the fever is due to hepatic amœbiasis unless leucocytosis is present, but it is proof positive that a course of emetine is necessary If it is a case of paratyphoid or of typhoid in an uninoculated person the development and maintenance of a specific agglutination reaction will in most cases indicate the diagnosis A culture from the blood or fæces may settle it in any case of enteric, and usually the clinical course, with rash and enlarged spleen, will remove any possible doubt

But if the result of examinations is negative and the course is atypical, we must at once think of the other three possibilities Kala-azar at first closely resembles enteric fever, later it may be mistaken for malaria. The fever is usually of the high remittent type, with long intervals of apyrexia, as in relapsing fever, but of irregular length Very often if the temperature is taken two hourly there will be found to be two rises and two remissions in 24 hours This, well marked, is almost diagnostic. The blood presents a special picture, there is a steady loss of polymorphonuclear cells, till an extreme leucopenia results There is a loss, not proportionately severe, of mononuclear cells, with a rise in the percentage of large mononuclears There is a loss, sometimes very severe, of red cells, but the colour index is unchanged The spleen enlarges and becomes enormous, and the leishmania may be found in pulp taken by puncture Practice and sometimes a very long search are needed to find it. The common complications are hæmorrhages and purpura, pneumonia, and cancrum oris Any complication that produces a leucocytosis may cure the patient, otherwise the only treatment as yet of any value is heroic doses of quinine, 90 grains a day, which, according to Rogers, saves 25 per cent Italian observers have reported cures in children by repeated doses of salvarsan, but their reports have not been confirmed

Malta fever (Mediterranean fever, undulant fever) is characterised by the peculiar undulating temperature chart The organism may be cultivated from the urine and a serum reaction is given In low dilutions this reaction is suggestive but not conclusive evidence of the disease, and the paradoxical reaction agglutinating at low and high dilutions, failing at intermediate ones, is said to be common. The test should therefore always be tried with a considerable range of dilution, and agglutination with 1 in 100 or over is diagnostic. I do not know that any cases have been reported

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The *explanation of the* survival of this fiction lies in the fact that the term ' puerperal fever is still in official use in recording the cause of death and under the Notification of Infections Diseases Act The term came into use about the year 1716 and it should have been dropped about the year 1850 But unfortunately the Registrar-General actually began to use it in 1850 just after Semmelweis had proved that there was no such disease Some years ago Dr Tatham issued a circular letter to practitioners asking them to abandon the use of the term in filling up death certificates, but this request had little effect. The Registrar General still classifies puerperal pelvic infection thus.—

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In the year 1889, 40 years after Semmelweis had shown that there is no such disease, "*puerperal* fever" was included with small pox, scarlet fever, diphtheria, and the like as a condition *to be notified* under the "Notification of Infections Diseases Act." In 1899 by the extension of this Act, notification was made compulsory in all districts One of our best public health officers has written "The notification of puerperal fever will vary with the opinion of the *practitioner* as to what constitutes a definite case ' It *does* During the year 1912 the death rate of so called *puerperal fever* in Liverpool was 0 034, and the notification rate was only 0 05 In Manchester during the same year the death rate of the condition was 0 031, and the notification rate was 0 19 Thus, though deaths from the condition were more prevalent in Liverpool than in Manchester, yet notifications were *about four* times as common in Manchester as in Liverpool *Of* the notified cases 78 per cent appear to be fatal in Liverpool, as against *only* 16 3 per cent fatal in Manchester

Such discrepancy shows that the notification of so called puerperal fever is a farce Births, deaths, and marriages may perhaps be *counted*, but it is just as impossible *to enumerate* cases of puerperal pelvic infection as to *count* cases of ordinary wound infection The practitioner asked to notify cases so ill defined in character is *in* constant doubt, and the outcome depends just as much on his own temperament as upon the nature of the case in question

The sources of dubiety are many *In the first* place, conditions which are not pelvic *infection* at all are notified just because *they* are "fever *during* the puerperium" Thus influenza, scarlet fever, pneumonia, and enteric are sometimes notified as puerperal' Special *infectious* fevers apart, infections of parts of the body other than the genital *tract* are often notified if they occur soon after labour The writer has *seen* mastitis, appendicitis, colitis nephritis, cystitis, tonsillitis, and *parotitis* notified as "*puerperal fever*" He has also seen ptomaine poisoning so *notified* fæces and serum must also be made unless the fever disappears at once on treatment In pure amœbiasis or malaria it will disappear, if it continues the case is probably one of enteric, and it must never be forgotten that double infections are common If examination of the stools discovers dysenteric amœbæ it is no proof that the fever is due to hepatic amœbiasis unless leucocytosis is present, but it is proof positive that a course of emetine is necessary If it is a case of paratyphoid or of typhoid in an uninoculated person the development and maintenance of a specific agglutination reaction will in most cases indicate the diagnosis A culture from the blood or fæces may settle it in any case of enteric, and usually the clinical course, with rash and enlarged spleen, will remove any possible doubt

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2 The increase of movement Several who had suffered from stiffness owing to their wounds have presented themselves a day or two after the first application, and have demonstrated that they have regained increased movement This statement, of course, does not apply to cases of wounded joints

3 The relief of swelling The inflammatory induration surrounding the wounds is greatly diminished, and this probably is the explanation of the relief of pain and stiffness I have also found that tenderness is relieved and that redness surrounding the wounds frequently disappears soon after the light treatment is commenced

4 Absorption of scar tissue This is shown in a most remarkable manner by the treatment of old scars on the cornea As such cases do not come within the scope of this paper, I must reserve the notes for another time, but it is very extraordinary to see the change produced by the light in such cases Not only can one with the naked eye see the scars on the cornea clear up, but there is also the positive evidence of increase of visual acuity resulting This discovery of the definite absorption of fibrous tissue and of inflammatory exudation should, I think open up a field for research which may throw much light on the beneficial action of this agent in the many apparently diverse conditions which have already been described in THE LANCET

5 After the first or second treatment there is, as a rule, marked alteration in the appearance of the wounds Unhealthy granulation tissue becomes a better colour and more even in surface, and the epithelium begins to grow in from the edges In Case 1 there was a marked growth of the epithelium from both edges of the wound on the second day after the first application of the light

6 The discharge from the wounds almost immediately becomes much diminished. This is a very marked feature

Most of the cases treated have been in hospital for a considerable time before treatment was started, and healing had become arrested or they were cases which had healed and the wounds had broken down again, after which progress became arrested It should be noted that all those cases were treated in my own house, the installation being there, and only such as were able to get there—i e walking cases—could be treated Over 40 in all were treated, and the following cases may be taken as typical examples The dose given was two and a half to three minutes at each sitting and there were usually two sittings per week When the patients were discharged from hospital the scars were very good and supple

CASE 1 —Driver —— Wound on the ulnar side of the elbow joint received in the autumn of 1914 This healed but broke down again when the patient returned to the front in February 1915 He was sent to me in July with a report that the wound had not made any progress since he was admitted to hospital over a month before The wound was about three inches in length and one inch broad the granulation tissue was brown and lumpy the edges were not undermined and there were some pain and stiffness On the day after his first treatment the patient told me that the pain had ceased and demonstrated increase of movement Two days after the first treatment the granulation tissue looked a healthy red colour and the epithelium was growing in from the edges He had three applications of light and was discharged from hospital healed on the ninth day after the first treatment with a good firm scar

CASE 2 —Private —— Wound received on March 11th 1915 in the lower third of the thigh Two shrapnel wounds and [illegible] A small piece of [illegible] had been removed The [illegible] that the wound had been [illegible] for many weeks, and could not be induced to heal. There was no pain or tenderness, the granulation tissue had an unhealthy appearance, and there was some induration round the wounds but no redness First treatment with light on July 11th. Twelve applications in all. Discharged healed on Sept 24th Healing was retarded in this case by an overdose of the light on July 21st One of the wounds which had been healed broke down again, and swelling, redness, and pain also resulted In consequence treatment had to be suspended for a fortnight, but after this the wounds healed more rapidly

CASE 3 —Private —— Wounded on May 21st, 1915, admitted to Royal Victoria Hospital, Folkestone, on May 26th Sent for treatment with Simpson light on July 11th The patient had a wound about two inches below the knee-joint There was a large cavity in the tibia, about the size of a hen's egg with some swelling and inflammation of the soft parts The whole of the base of the wound was covered with necrosed tissue of the colour of wash leather The skin surrounding the wound was very red and ulcerated in places There was extreme tenderness and the pain frequently kept the patient awake at night There was very profuse discharge. There was also much stiffness of the knee joint This case was sent by the surgeon with the report that progress was very slow On July 19th he reported that the pain had entirely gone, that the movement of the knee had greatly increased, and that there was much less tenderness The surroundings of the wound were looking much more healthy, the swelling and inflammation were gradually subsiding The discharge was much less and also changing in character being much less purulent On July 31st practically all the skin surrounding the cavity had healed the inflammation and redness were practically gone, there had been no pain since the second application of light, and the cavity was rapidly filling up There was very little discharge By August 14th the cavity was less than half the size and was entirely lined with healthy granulation tissue The skin surrounding the wound was almost practically white and there was no swelling or tenderness There were still however small spicules of bone coming away from time to time from the base of the cavity The patient was sent to a convalescent home on Sept 27th, as beds were urgently required. At that time the cavity was about the size of a blackbird's egg epithelium was growing in from the edges and apparently only a small surface about the size of a sixpenny piece at the base of the cavity was unhealed Treatment in this case was done twice a week

CASE 4 —Private —— Wounded on Nov 7th 1915 The patient had a bullet wound in the lower third of the thigh The bullet entered on the outer side, coming out at the middle line behind This wound had entirely healed and broken down again at the point of exit The patient was sent for treatment on Jan 22nd, 1916 He had severe eczema, spreading from the wound behind six inches up and to the outer and inner sides of the thigh. The whole surface was weeping and there were many pustules He complained of severe pain which he said kept him awake at night On the 25th there was very obvious improvement The wound was healing the pustules had entirely disappeared, and the whole of the eczematous skin was dry with the exception of an area of about the size of a half crown piece on the outer side He volunteered the statement as he entered the room that he had had no pain since the last treatment, and had slept well On the 29th the eczema had entirely healed, and the wound was all but healed He was discharged on Feb 3rd entirely healed

I am able to confirm the favourable results reported by Dr W D Harmer and Dr E P Cumberbatch I have seen great improvement following treatment with the Simpson light in three cases of lupus, one case in which tuberculous ulceration of the hand and arm of 18 years standing was entirely healed But I have also seen two cases of advanced Graves's disease in which there was very marked improvement In both cases the thyroid became smaller and the signs and symptoms decreased Dr Harmer and Dr Cumberbatch report only negative results in the treatment of this disease

Folkestone

Much more numerous are omissions to notify cases which really are examples of pelvic infection Many of these are so slight and transient that no one ever thinks of notifying them at all But where is the line to be drawn? Every gradation exists between the infection that causes no complaint from the patient and the one that kills her Very few practitioners notify infection following abortion But if it is notified after a labour at 7 or 8 months why should notification be omitted after an abortion at 5 or 6 months, and how distinguish between those at 5 or 6 months and those at 2 or 3 months? There is one abortion for every three or four full time confinements, and many of them are followed by infection A great many of these abortions are never seen by any medical man Thus it is clear that infection after abortions cannot be notified to any purpose

Differences of opinion arise as to the date, the nature, the source, the route, and the site of the infection in particular cases Thus many argue that an infection which is already in the patient's pelvic organs before labour is not "puerperal" Others hold that "septic" infections are to be notified, but not those which are venereal, tuberculous, or due to bacilli of the colon group Some again consider that a pelvic infection secondary to, say, appendicitis is not to be notified, for "puerperal" infection must come from without and not from within the body, and must arrive by way of the external genitals and not by the blood stream or across the peritoneal cavity A patient had a vaginal discharge before labour and a febrile attack with arthritis after it The case was not notified because (1) she was infected before labour, and (2) because the disease was gonorrhœa. An old appendicitis flared up after a labour and infected the pelvic organs This was not notified because (1) the infection came from above, and (2) it was a case of appendicitis—not "puerperal fever" A torn perineum was covered by a diphtheritic membrane The case was not notified because (1) it was an infected torn perineum and not "puerperal," and (2) it was diphtheria.

As to the lapse of time between the labour and the appearance of symptoms some medical men have a time limit, after which puerperal infection is not "puerperal fever" The limit seems to vary from 10 to 30 days Thus a stinking placenta was removed 17 days after labour, and the case was not notified because (1) it was too long after labour, and (2) the condition was sapræmia and not "septicæmia, pyæmia, phlegmasia dolens, or puerperal fever, which are the conditions recognised by the Registrar General"

So there are many answers to the conundrum When is puerperal fever not puerperal fever? Or, in modern language When is puerperal pelvic infection not to be notified? Some answers would be 1 When it is slight 2 When it follows an abortion 3 When it begins before labour 4 When it appears some considerable time after labour 5 When it is gonorrhœa (or any other definite disease) 6 When it is a torn perineum (or any other definite injury) 7 When it begins with appendicitis (or any other "'itis') In different districts, also notifications vary with the personal equation of the local medical officer of health One medical man who had a doubtful case said there would be no trouble with the authorities because the medical officer of health was a gentleman who always took the word of his colleagues Another said there would be no trouble because he was medical officer of health himself It is clear that notifying cases of puerperal pelvic infection is like counting sunken submarines, of which Mr Balfour said "We have every gradation from absolute certainty through practical assurance down to faint possibility Facts like these are not suitable for statistical treatment"

No one who considers the matter seriously thinks that the notification of so called puerperal fever has ever done any good Wound infection has never been notified, but it has been reduced far more strikingly than has puerperal infection Hospitals are now nearly free from pus and quite free from hospital gangrene, and private surgical practice is carried on almost without suppuration This has been secured simply by the spread of clean surgery Also infection has been very largely banished from the lying in hospitals and reduced in private obstetric practice, not by notification, but by the spread of clean midwifery, by the education, in short, of doctors, of midwives, and of the public Yet considerable time, trouble, and thought, paper, printing, and public money are wasted every year on the compilation and publication of statistics based on these notification figures It is to be hoped that no one reads them, for the public do not realise that these notifications are not cases, but personal opinions of different men about different cases, and that the results are most deceptive and misleading

Another bad outcome of the "puerperal fever" fiction is the treatment of cases of puerperal pelvic infection in fever hospitals under the direction of men who are specialists in the treatment of real "infectious" fevers, but who have no special knowledge of the diseases peculiar to women This anomaly is to blame for many things which are much to be deplored In Birmingham the proper course has been adopted, for there these cases are treated, largely at the public cost, in a block within the grounds of the Hospital for Women, under the direction of the obstetric specialists who staff the hospital

It is high time that the use of the term "puerperal fever" was dropped It has been known for over 60 years that no such disease exists but the abstract idea connected with the name will persist so long as the name continues to be used Such fictions die very slowly, and if the harm they do is to be stopped they must be attacked actively and destroyed

Manchester

THE TREATMENT OF SEPTIC WOUNDS WITH THE SIMPSON LIGHT

BY J A MENZIES, M B, C M EDIN,
HONORARY OPHTHALMIC SURGEON ROYAL VICTORIA HOSPITALS OF DOVER AND FOLKESTONE.

AFTER using the Simpson light for over seven months I think the following notes on the treatment of septic wounds may be of interest, more especially at the present time

The following may be regarded as among the distinctive features of Simpson light treatment

1 The relief of pain Nearly all the men treated by the Simpson light who before treatment were suffering pain from their wounds have volunteered the statement that since the treatment they have been free from pain, and this statement is frequently made on the day following the first application Two patients in particular (Cases 3 and 4), who had suffered from sleepless nights owing to pain have since the commencement of the treatment been entirely relieved from pain

2 The increase of movement Several who had suffered from stiffness owing to their wounds have presented themselves a day or two after the first application, and have demonstrated that they have regained increased movement This statement, of course does not apply to cases of wounded joints

3 The relief of swelling The inflammatory induration surrounding the wounds is greatly diminished, and this probably is the explanation of the relief of pain and stiffness I have also found that tenderness is relieved and that redness surrounding the wounds frequently disappears soon after the light treatment is commenced

4 Absorption of scar tissue This is shown in a most remarkable manner by the treatment of old scars on the cornea As such cases do not come within the scope of this paper, I must reserve the notes for another time but it is very extraordinary to see the change produced by the light in such cases Not only can one with the naked eye see the scars on the cornea clear up, but there is also the positive evidence of increase of visual acuity resulting This discovery of the definite absorption of fibrous tissue and of inflammatory exudation should, I think open up a field for research which may throw much light on the beneficial action of this agent in the many apparently diverse conditions which have already been described in THE LANCET

5 After the first or second treatment there is as a rule, marked alteration in the appearance of the wounds Unhealthy granulation tissue becomes a better colour and more even in surface, and the epithelium begins to grow in from the edges In Case 1 there was a marked growth of the epithelium from both edges of the wound on the second day after the first application of the light

6 The discharge from the wounds almost immediately becomes much diminished This is a very marked feature

Most of the cases treated have been in hospital for a considerable time before treatment was started and healing had become arrested or they were cases which had healed and the wounds had broken down again, after which progress became arrested It should be noted that all those cases were treated in my own house the installation being there, and only such as were able to get there—i e walking cases—could be treated Over 40 in all were treated and the following cases may be taken as typical examples The dose given was two and a half to three minutes at each sitting and there were usually two sittings per week When the patients were discharged from hospital the scars were very good and supple

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[illegible]

DIET AS A FACTOR IN THE CAUSATION OF MENTAL DISEASE

BY CHAS MERCIER, M.D LOND , F R.C P LOND.
LATE PHYSICIAN FOR MENTAL DISEASES TO CHARING CROSS HOSPITAL.

THE following cases have occurred in my practice in a period of about three years I will first record them, and, with the permission of the Editor, will comment upon them in the next issue of THE LANCET

CASE 1 —Footman, aged 27 Suffered for years from severe headaches and for the last four weeks from that form of sleeplessness which consists in inability to get to sleep For a few days suffered from attacks of dizziness, and one very hot afternoon in one of these attacks, he acted so strangely that he was taken to Bethlem where he talked a great deal about the country being infested with foreign spies (This was before he war) He eats but little meat but is very fond of fat—fat meat of any sort butter, and dripping, which he spreads thick Has *four cups of tea per diem*, with three lumps of sugar in each or nearly a quarter of a pound in all He was told to knock off his fat, butter, dripping and sugar and to eat more meat. During the next week he had one bad attack of headache and dizziness, and two slight headaches During the *second* week two slight dizzy attacks but no headache In *each* of the next weeks he *had* one bad headache and after this they finally ceased He was now sleeping well, and completely recovered

CASE 2 —Woman' aged 53 She *feels muddled and dazed*, and the feeling is so severe that it keeps her awake at night. With this there is pain in the head which also is severe These symptoms have been gradually increasing for three years and are now bad enough to prevent her from working She does not care for meat Eats it *only at one* meal a day, *and not more than five days a week* She is fond of fat but says she does not eat a great deal Does not eat much butter or sweets She is told to regulate her diet and soon ceases to attend Presumably her symptoms are relieved

CASE 3 —Clerk, aged 26 A wave of confusion comes over him and he falls down but does not lose consciousness or hurt himself For many years he has suffered from severe headaches coming on once a month so severe that they *compel him to lie down* He goes to *sleep and awakes* prostrate Even if they come on in the street he feels inclined to lie down then and there His sight is not affected He does not care for meat lives chiefly on milk puddings He is very fond of fat and when he does have *meat* he eats the fat and leaves the lean Takes very little exercise Has had the headaches for 14 years, and they have been gradually getting worse He is *told to stop* the milk puddings, to reject fat, and to eat lean meat *at least* twice a day At the end of a week he reported himself greatly improved and then ceased to attend

CASE 4 —Telephone *operator* aged 30 Very nervous A sudden noise or being suddenly spoken to makes her *start* violently She is losing her business memory—*that is to* say she forgets what she has to do She is so nervous that she *screams* when a dog comes near her and cries when she enters a church *She* suffers much from throbbing pains at the back of her *head* She works in an underground room by electric light from 9 to 6 Her *breakfast* consists of bread and butter and tea Lunch tea and a bun The same for tea. For supper she has three or four days a week a chop or eggs and bacon , on the other three or four days bread and butter She is told to adopt a different diet and *eat more meat* but as her wages are only 14s per week she says this will be *difficult* She ceased to attend and the progress of the case is unknown

CASE 5 —Married woman She has been depressed for several years The depression is now so severe that she contemplates suicide *Sleeps very* badly and has awful dreams. Cries for hours *every day*, and can take no interest in her work nor in her *child* She eats little of anything , lives chiefly on bread and-butter , *does not care* for fat but is very fond of butter, and eats a great deal of it Drinks much tea and likes it sweet Told to leave off *sugar*, *to* reduce her bread and butter to *bread and scrape*, and to eat meat For the first week *she did not improve*, but it appeared that she had not modified her diet except in leaving off sugar The necessity of complying with instructions was impressed upon her, and the following week she admitted, with evident surprise and reluctance that she was *better* She had not *cried once* and *now* had *hopes of recovery* Hitherto she had been certain that she would either die or go mad From this time she improved so much that she slept soundly every night, became quite cheerful and spoke with enthusiasm of the treatment saying it had worked a miracle She was told she need not attend any more but three weeks *afterwards* she appeared again, having *suffered* a *relapse* She said she was as bad as ever but this was evidently an exaggeration She was, however, very depressed , and upon inquiry it appeared that she had become pregnant During her pregnancy she continued depressed, but with wide fluctuations. She dreaded her confinement having had a very bad time with her previous child However, it *passed off* fairly well but she attended again with her month-*old* baby with all her *old* symptoms as bad as ever She was told to wean the child, and on the next visit she had improved, though the child was only partly weaned She was urged to wean it entirely, which she did, and this time she rapidly improved, and in two or three weeks was *completely well*

CASE 6 —Married woman, aged 26 She is very depressed at times, but her chief trouble is that she is so muddled about her work She has always been *such* a *good manager* but now, though she knows what *she ought to do*, she cannot *do it* She has to be told what to do even in the simplest domestic duties such as getting the baby s bottle ready She is depressed by the sense of her own unworthiness, and imagines that her home her husband, and her children are dirty, and that it is her fault She has two children and her husband, who, when in work, *earns* about 24s has been *out of* work for six months She has been *managing* her mother s house as well as her own and has half starved herself in order that the children might have enough The almoner's services were requisitioned, work was found for the husband, the patient was enjoined and assisted to get *proper food* in proper amounts and in a month had lost all her *symptoms*

CASE 7 —Salesman, aged 27 For seven years he has had a gradually increasing confusion of mind When he hears people talking he does not understand what they say , it is as if they were speaking in a foreign language When told *to do anything* he stands and looks stupid, until after a time it *dawns upon* him what is meant, *and he does* correctly *what he is told* He is sometimes *told that he does* not know what he is talking about and he *says it is quite* true that on these occasions he does not know *On one* occasion on his way home he asked *20 or 30* people to direct him, though he knew the way quite well He has only two *meals a day* and meat at only one of these and then not much He has six cups of tea per diem with two lumps of sugar in *each—nearly* a quarter of a pound in the day He was told to leave off his sugar and eat meat twice a day and more of it At the next visit he was much better and then ceased to attend

CASE 8 —Married woman, aged 25 She says "I have a funny feeling in my head, I feel half dazed and don t know what I *am doing* I feel I can t settle myself, I am so restless *I can't keep still* I feel as if I want to get about and do my work but I am half silly and can t do what I want to I go off into screaming fits as soon as I am left alone , I don t know why, I am not afraid of anything And I am so depressed I suffer much from shooting pains through my head ' She has meat always once a *day, and sometimes* twice but not much Has six cups of tea with two *lumps* of sugar in each and is very fond of butter Eats the best part of a half a pound per day She is told to knock off almost all her butter and to eat bread and scrape and to increase her ration of meat In a fortnight she was much better Her head she said was not quite as it should be , every other day she feels all right but on alternate days she is much troubled *In another fortnight* she was practically well and thereafter *ceased to attend*

CASE 9 —Dressmaker aged 28 For three years she has become more and more depressed and nervous and during the last six months has been very bad She is subject to attacks of pain in the head which used to last a few hours and went off if she lay down and kept quiet, but now they last two or three days and nights and sometimes for a week. They are brought on especially by railway journeys even if brief. She is alone all day from 6 30 in the morning until 8 at night. Does not like sweets but is fond of fat and eats a great deal of butter, fat meat and fat bacon No instruction as to diet was given to her on her first visit and for the next fortnight she did not improve Then she was told to reduce her butter to a scrape, to renounce fat in all forms and to eat more of the lean of meat. In the following fortnight she had but one attack but this was very severe The journey by rail from Surrey gave her no discomfort In the next week she had no attack until she took the journey to see me which brought on a very slight one In the following fortnight she had several attacks, one of which lasted all day and part of the night, the other three were slight In the next fortnight she had but one attack, which, however lasted all day, and a slight one brought on by the railway journey In the next fortnight she had no attack, and then ceased to attend

CASE 10 —Married woman, aged 33 For three months she has suffered from "nervous debility" by which she means that she is low spirited, weeps for no reason trembles, and imagines that something awful is going to happen She is worst in the morning, improves as the day goes on, and is all right by tea time. She is much alone, her husband being a clerk and absent all day and she has no children No note was made of her diet, but it must have been found faulty for she received instructions to alter it At the end of a week she was no better but on inquiry it was found that she had not followed the prescribed diet She was told to observe it strictly and at the end of a week she reported that she had no depression to speak of At the end of another week she reported herself well

CASE 11.—Married woman, aged 55 A feeling rises from her feet to her head where it becomes a tightness and she feels sometimes as if she had had a blow on her head, sometimes as if her brains were being drawn out The strange feeling in her head often wakes her in the night She lives chiefly on bread and butter but does not take very much butter, does not care for fat or sweets Eats very little meat never more than 2 oz per diem, and some days none She was told to eat meat twice at least every day and in larger quantity She did not attend again but three months afterwards I heard from her that she became so rapidly better that she did not think it worth while to attend any more.

CASE 12 —Labourer aged 45 For 20 years he has suffered at increasingly frequent intervals from severe pains in the head, coming through to the eyes It comes on in the morning and lasts all day Sleep is the only thing that relieves it He looks much distressed and says it drives him distracted and he loses many days work through it. Cannot eat fat does not like it but is very fond of butter Lives chiefly on bread and butter and cake Drinks about 3 pints of tea per diem in which he takes I find by calculation from 2½ to 3 lb of sugar per week He was told to knock off his butter and sugar and to eat more meat He returned in a fortnight in high spirits extolling the treatment enthusiastically and reporting that he had had no headache at all for ten days a longer interval than he had known for many years After this he ceased to attend and may be presumed to have recovered

CASE 13 —Married woman aged 28 Three weeks ago she had some silly fancies Turned against her husband and accused him of trying to poison her Had a friend to visit her and when the friend was gone the patient had a horrid fear that she was not gone The patient had quarrelled with this friend and called her a liar She now says that her husband is one of the best fellows going and so is the friend she turned against She has no such silly fancies now but her memory is bad and her mind is confused When she puts a thing down she cannot remember what she has done with it She does not always know where she is and sometimes gets out of a tram when her journey is only half complete She is alone all day her husband leaving home at 7 A.M. and not returning until 6.30 or 7 P.M. She has meat always twice a week but no always three times Lives chiefly on bread and-butter She was told to regulate her diet, but I do not know whether she did so She attended for a month, during which time she did not improve, and she then ceased to attend

CASE 14 —Married woman, aged 44 She suffers much from pain in the head, which keeps her awake at night, so that some nights she does not sleep at all In addition to this she hears voices and sees visions She constantly hears people talking all day and all night The voices are quite distinct, sometimes loud sometimes a whisper, some of them are the voices of people she knows, others are strange to her They repeat everything she says and threaten her Once she was told that her husband was at Paddington Station waiting for her, and she took a cab and went to meet him The voices abuse her, and their language is cruel, dreadful. Besides this, she sees faces at the window and at the door Once a woman met her on the stairs addressed her by name, and asked her about a ring she was wearing The woman then went into a closet on the stairs. The patient followed her into the closet, but found it empty The same night when she went into her own room she found three men there One was a chef whom she knew, the others she did not know One of these demanded money of her, and the chef said he was doing a dinner at Covent Garden and asked her to help him She was about to give money to the man who asked for it, but when he stretched out his hand there was nothing to drop the money into She could see the carpet through his hand Up to that moment she had thought the men were real, but then she knew they were not She put down the money and fled She first began to see visions and hear voices 18 months ago They are so real that she cannot help thinking they are real people talking to her, though she tries to think they are only fancy She is not fond of meat, goes without it three days a week, and on the other days eats very little, and then only the fat She is very fond of fat and butter Lives chiefly on bread and butter the butter spread thick, and puddings She used to like meat but left it off two years ago She was advised to alter her diet, to eschew butter and fat and eat meat. She did not attend again

CASE 15 —Married woman, aged 50 Has suffered as long as she can remember from incapacitating headaches. Wakes with them in the morning and they go off towards night. She eats meat every day but so little, not more than 2 oz Cannot eat sweets, but is very fond of butter, spreads it thick upon her bread and lives chiefly on bread-and butter Advised to alter her diet. Did not attend again.

CASE 16.—Mechanic aged 27 "My mind" he says, "is always concentrated on myself I suffer from a pressure at the back of my head I am always wondering what is going to happen—whether I am going to fall down or faint away I cannot sleep, never go to sleep till 2, and wake at 4 or 5" He never eats meat more than four days a week and for the last two months only in the form of a ham sandwich, which constitutes his dinner Eats but little fat, and not much butter but is fond of dripping Was told to modify his diet but the progress of the case is unknown

CASE 17 —Married woman, aged 53 Constant pain in head, which keeps her awake at night Her mind wanders, and she pictures horrible things such as people drowning She sees these things when between sleeping and waking Forgets what she has to do Eats meat not more than three times a week and then very little Is fond of butter, spreads it thick and eats a good deal for she lives chiefly on bread and butter Told to eat meat daily and reduce the bread and butter to bread and scrape She did not carry out these instructions very faithfully, but slowly improved until in three months she ceased to see the pictures slept better and lost the pain in the head After this she relapsed the pain returned and she saw people in her room at night I then set the almoner at her to see that my instructions were carried out and again she improved this time rapidly and much Subsequently, on the supervision being taken off she again relapsed

CASE 18 —Married woman aged 36 For 18 months she has had attacks about the time of her periods of laughing and crying with a feeling of suffocation She forgets that she has done a thing and does it over again repeatedly She suffers much from headache at a spot on the right side of the forehead Husband has been out of work for 18

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By CHAS MERCIER, M D Lond, F R.C P Lond.
LATE PHYSICIAN FOR MENTAL DISEASES TO CHARING CROSS HOSPITAL.

The following cases have occurred in my practice in a period of about three years I will first record them, and, with the permission of the Editor, will comment upon them in the next issue of The Lancet

Case 1 —Footman, aged 27 Suffered for years from severe headaches and for the last four weeks from that form of sleeplessness which consists in inability to get to sleep For a few days suffered from attacks of dizziness, and one very hot afternoon in one of these attacks, he acted so strangely that he was taken to Bethlem where he talked a great deal about the country being infested with foreign spies (This was before he war) He eats but little meat but is very fond of fat—fat meat of any sort butter, and dripping, which he spreads thick Has four cups of tea per diem, with three lumps of sugar in each or nearly a quarter of a pound in all He was told to knock off his fat, butter, dripping and sugar and to eat more meat During the next week he had one bad attack of headache and dizziness, and two slight headaches During the second week two slight dizzy attacks but no headache In each of the next weeks he had one bad headache and after this they finally ceased He was now sleeping well, and completely recovered

Case 2 —Woman' aged 53 She feels muddled and dazed, and the feeling is so severe that it keeps her awake at night. With this there is pain in the head which also is severe These symptoms have been gradually increasing for three years and are now bad enough to prevent her from working She does not care for meat Eats it only at one meal a day, and not more than five days a week She is fond of fat but says she does not eat a great deal Does not eat much butter or sweets She is told to regulate her diet and soon ceases to attend Presumably her symptoms are relieved

Case 3 —Clerk, aged 26 A wave of confusion comes over him and he falls down, but does not lose consciousness or hurt himself For many years he has suffered from severe headaches coming on once a month so severe that they compel him to lie down He goes to sleep and awakes prostrate Even if they come on in the street he feels inclined to lie down then and there His sight is not affected He does not care for meat lives chiefly on milk puddings He is very fond of fat, and when he does have meat he eats the fat and leaves the lean Takes very little exercise Has had the headaches for 14 years, and they have been gradually getting worse He is told to stop the milk puddings to reject fat, and to eat lean meat at least twice a day At the end of a week he reported himself greatly improved and then ceased to attend

Case 4 —Telephone operator aged 30 Very nervous A sudden noise or being suddenly spoken to makes her start violently She is losing her business memory—that is to say she forgets what she has to do She is so nervous that she screams when a dog comes near her and cries when she enters a church She suffers much from throbbing pains at the back of her head She works in an underground room by electric light from 9 to 6 Her breakfast consists of bread and butter and tea Lunch tea and a bun The same for tea. For supper she has three or four days a week a chop or eggs and bacon, on the other three or four days bread and butter She is told to adopt a different diet and eat more meat, but as her wages are only 14s per week she says this will be difficult She ceased to attend and the progress of the case is unknown

Case 5 —Married woman She has been depressed for several years The depression is now so severe that she contemplates suicide Sleeps very badly and has awful dreams. Cries for hours every day and can take no interest in her work nor in her child She eats little of anything, lives chiefly on bread and butter, does not care for fat but is very fond of butter, and eats a great deal of it Drinks much tea and likes it sweet Told to leave off sugar, to reduce her bread and butter to bread and scrape, and to eat meat For the first week she did not improve, but it appeared that she had not modified her diet except in leaving off sugar The necessity of complying with instructions was impressed upon her, and the following week she admitted, with evident surprise and reluctance, that she was better She had not cried once and now had hopes of recovery Hitherto she had been certain that she would either die or go mad From this time she improved so much that she slept soundly every night, became quite cheerful and spoke with enthusiasm of the treatment saying it had worked a miracle She was told she need not attend any more, but three weeks afterwards she appeared again, having suffered a relapse She said she was as bad as ever but this was evidently an exaggeration She was, however very depressed, and upon inquiry it appeared that she had become pregnant During her pregnancy she continued depressed, but with wide fluctuations She dreaded her confinement having had a very bad time with her previous child However, it passed off fairly well but she attended again with her month old baby with all her old symptoms as bad as ever She was told to wean the child, and on the next visit she had improved, though the child was only partly weaned She was urged to wean it entirely, which she did, and this time she rapidly improved, and in two or three weeks was completely well

Case 6 —Married woman, aged 26 She is very depressed at times, but her chief trouble is that she is so muddled about her work She has always been such a good manager, but now though she knows what she ought to do, she cannot do it She has to be told what to do even in the simplest domestic duties such as getting the baby's bottle ready She is depressed by the sense of her own unworthiness, and imagines that her home her husband, and her children are dirty, and that it is her fault She has two children and her husband, who, when in work, earns about 24s has been out of work for six months She has been managing her mother's house as well as her own and has half starved herself in order that the children might have enough The almoner's services were requisitioned, work was found for the husband, the patient was enjoined and assisted to get proper food in proper amounts, and in a month had lost all her symptoms

Case 7 —Salesman, aged 27 For seven years he has had a gradually increasing confusion of mind When he hears people talking he does not understand what they say, it is as if they were speaking in a foreign language When told to do anything he stands and looks stupid, until after a time it dawns upon him what is meant, and he does correctly what he is told He is sometimes told that he does not know what he is talking about and he says it is quite true that on these occasions he does not know On one occasion on his way home he asked 20 or 30 people to direct him, though he knew the way quite well He has only two meals a day and meat at only one of these and then not much He has six cups of tea per diem with two lumps of sugar in each—nearly a quarter of a pound in the day He was told to leave off his sugar and eat meat twice a day and more of it At the next visit he was much better and then ceased to attend

Case 8 —Married woman, aged 25 She says "I have a funny feeling in my head I feel half dazed and don't know what I am doing I feel I can't settle myself, I am so restless I can't keep still I feel as if I want to get about and do my work but I am half silly and can't do what I want to I go off into screaming fits as soon as I am left alone, I don't know why I am not afraid of anything And I am so depressed I suffer much from shooting pains through my head" She has meat always once a day, and sometimes twice but not much Has six cups of tea with two lumps of sugar in each and is very fond of butter Eats the best part of a half a pound per day She is told to knock off almost all her butter and to eat bread and scrape and to increase her ration of meat In a fortnight she was much better Her head she said was not quite as it should be, every other day she feels all right but on alternate days she is much troubled In another fortnight she was practically well and thereafter ceased to attend

Case 9 —Dressmaker aged 23 For three years she has become more and more depressed and nervous, and during little—not more than 2 ounces Fish twice a week. Drinks much milk When he feels low, which is pretty often, he eats nothing *Seen once only*

CASE 33 —Schoolmaster aged 29 Breaks down and cries for no reason, has to rush out of the room to save himself from making an exhibition of himself by an outbreak of weeping On one occasion he rushed off to a doctor and as soon as he reached the consulting room he broke down and wept There has been some tendency to this for three years but he has easily overcome it until the last month, during which it has become intolerable I saw him on May 1st just after Easter, and he had been keeping Lent very strictly but previously he had eaten very little meat, never more than one cutlet or an equivalent amount in a day No other error in diet No headache Seen once only but I heard from his doctor a month after I saw him that he had reformed his diet and was greatly improved.

CASE 34 —Man, aged 66 Looks much older than his age, and complains of loss of memory of the usual senile type Forgets in five or ten minutes an occurrence, such as a visit from a friend Begins to be suspicious and to fancy that his money is being kept from him. He is very careful of his money but forgets where he puts it Forgets the names of his children Suffers much from neuralgia Is very fond of sweets jams and puddings Spreads sugar on his bread and butter Eats meat only once or twice a week, and then very little Seen once only

CASE 35 —Male, aged 18 "I can t work I can't do anything I can t apply my mind to anything I have a difficulty in getting up in the morning It sometimes takes me an hour to dress I get thinking about other things" A friend says there are times when the patient seems lost in thought and stands stock still doing nothing, but when spoken to he can rouse up and go on with his work. He says he is a very bad meat eater Never eats as much as there is on a mutton chop nor anything near it Not nearly as much as a slice off a sirloin Lives chiefly on puddings cakes and bread and butter Not fond of fat or butter No headache He is 5 ft 10½ in, and still growing Weighs 10 st 5 lb Seen once only

(To be continued)

OBSERVATIONS ON THE ETIOLOGY OF SARCOMA IN THE RAT

BY ALBERT S LEYTON, M D CANTAB,
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AND
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(From the Department of Pathology of the University of Leeds)

SOME previous work[1] on the hæmolytic properties of the serum of rats inoculated with sarcoma showed us that these properties were to be found also in diseases of bacterial origin, and thus suggested an investigation into the possibility of a bacterial origin for sarcoma.

Adopting the hypothesis mentioned, we argued that the site of infection would probably be the cell nucleus, since most of the characteristics of malignant growth point to irritation of the nucleus It appeared probable that the *organism* in question would be of very small size if it were to reach and penetrate the nucleus Based on these two points a series of experiments was carried out as follows —

Rat sarcoma after an immersion for 20 seconds in boiling water was finely minced with the object of breaking up some of the nuclei and the minced tumour made into an emulsion with saline solution The emulsion was filtered through a Chamberland filter (B or F) The filtrate was plated out in the ordinary way on glucose glycerine agar and a streptothrix isolated in several cases In similar fashion we have also isolated but not yet investigated a streptothrix from mouse carcinoma

It seemed unlikely that a streptothrix, as such, would be a filter passer, but as they form spores it was conceivable that the passage through the filter had taken place in this condition As a spore, too, it might more easily enter the cell nucleus and also reproduce the streptothrix, either directly or through an alternate generation If this supposition were correct, the virus of the new growth should be found in the filtrate, and a corroboration of this hypothesis was obtained when, *in the summer of* last year, three rats, which had been repeatedly injected in the axilla with 1 c c each of sarcoma *filtrate, developed* tumours at the site of inoculation It is, of course, well known that several sarcomata have a filterable virus, but we are not aware that it has been mentioned in connexion with the Ehrlich rat sarcoma The first tumour noticed was of much slower growth than the original strain, but when inoculated into 18 rats it grew in four of them just like the original spindle cell sarcoma, which it then resembled in all respects except in the number of "takes," which at that time was about 90 per cent

In order to test the relationship of the streptothrix to the formation of sarcoma, it was injected several times into the subcutaneous tissue and into the peritoneal cavity of rats, and several were also fed with it weekly for some time So far, a tumour has *resulted in one of the fed rats only* In the mediastinum was a growth about the size of a cherry, together with several smaller ones It has all the characters of a spindle cell sarcoma and is inoculable From it the streptothrix has again been isolated

The streptothrix in question appears to be either very pleomorphic or several species are to be found in rat sarcoma We have *also isolated one by the* same method from the washings of the hair of a sarcomatous rat, but not, so far, from that of a normal rat Having regard to the precautions of technique, &c, against the possibility of error, we feel constrained to abandon the scepticism with which we approached the inquiry and to record the results so far attained The paucity of positive results we look upon as corroborative rather than otherwise, since obviously all rats will not possess the intrinsic factor as well as the extrinsic (streptothrix) necessary for the formation of new growth

In connexion with *this "nuclear"* hypothesis, we may mention that by the use of certain substances having direct nuclear affinity, which were kindly given to us by Professor A. G Green, of the Tinctorial Chemistry Department of the University of Leeds, it is possible to compass the destruction and effect the cure of subcutaneous inoculated rat sarcoma The tumour shrivels up into a hard mass and in time separates as a scab

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A HOME FOR PATIENTS IN THE LAST STAGE OF DISEASE —The annual meeting of the subscribers of Ernsborough House Exeter, was recently held at the local Guildhall under the presidency of Mr E J Domville The financial report showed that the *ordinary* expenditure had exceeded the income by £93 The chairman stated that during the year 15 patients had been admitted During the year he added the staff had removed to a larger building the gift of Mrs Godfrey Walker and they could now accommodate 20 *patients instead of 8* Mr *Domville* in conclusion appealed for increased financial support for this excellent home *for* 'patients in the last stage of illness' months She has had no meat for a long time Never buys any For the last 18 months has lived on oatmeal and rice She ceased to attend, and further progress is unknown

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[1] Journal of Pathology and Bacteriology vol xviii 191 p 43

CASE 19 —Widow aged 70 Pain in the head, giddiness sleeplessness, shocking dreams Between sleeping and waking has visions of murdering people Lives chiefly on milk puddings and a little fish Meat once a week, fish twice, and but very little of either Does not get to sleep till between 3 and 4 and sleeps only for two or three hours Told to eat meat every day, and a larger ration In a week she had increased her sleep to 4–5 hours In a fortnight she lost the visions In three weeks she was sleeping well and did not dream In four weeks she was sleeping 10–12 hours, but still suffered from pain in the head In seven weeks she lost her headache, slept well and did not dream Volunteered that she was better than she had been for three years

CASE 20 —Married woman, aged 42 Headache and throbbing of the head Very nervous Imagines things—that some one is fumbling with the handle of the door, and trying to get in, that her husband is unfaithful. Has no strength, and can take no interest in things Bursts out crying without reason, and is depressed Cannot give her mind to anything Everything seems too much for her It is becoming too much trouble to wash her child She has meat once a week only—on Sundays Told to eat meat daily At the end of a month her depression had nearly gone, and she had no difficulty in attending to the child Went for days without crying She continued to improve, and in two months ceased to attend

CASE 21.—Servant, aged 56 Pain and pressure on top of the head Sleeps badly Depressed Cries a great deal, and thinks everyone is against her Eats fat and butter but not in excess Is fond of sweets, and eats much cheese Told to eschew cheese and sweets and eat more meat She improved slowly and irregularly In six weeks she was able to sleep "quite well." Her spirits improved a great deal, she lost her headache but she was not well when, at the end of four months, she ceased to attend

CASE 22 —Married woman aged 24 Her nerves are bad She cannot bear to be alone Feels that if left alone she would commit suicide So depressed that she always wants to sit down and cry Terribly irritable Has fits of panic with trembling Lives chiefly on bread and butter and milk puddings Eats a little meat every day but very little as she is not fond of it In a fortnight she reported herself a little better She had been eating more meat but still not much She was told that she must eat more, and at the end of a fortnight she reported herself very much better In six weeks she could sit alone in a room if she knew there was some one else in the house Had ceased to cry and had no trembling fits In another fortnight she was practically well and ceased to attend

CASE 23 —Unmarried woman, aged 22 Three years ago she was left by the death of her mother in charge of the house and of two younger sisters For 12 months she has been out of health Wanted to shut herself up and be away from everyone During the last few weeks she has become worse She imagines things sees ghosts—her mother and brother, both of whom are dead Last week she cried a great deal, and the week before kept laughing without provocation One day she lay on the floor all day She sleeps very little No headache For many weeks past her appetite has been very bad For a fortnight she has eaten scarcely anything and for the last three days nothing at all Her sister was told to urge and compel her to eat plenty especially of meat and carried out the instruction In three weeks she was sufficiently improved to be sent to a convalescent home in the country, with instructions as to diet, for three months She returned quite well Said she feels all right, never cries or laughs irrationally, never sees ghosts, eats and sleeps well

CASE 24 —Male Pain in the head Depression Feels as if he were going out of his mind and as if he must do away with himself Sleepless No reason for the depression and he cannot understand why he should feel it Eats no breakfast, but has two raw eggs in milk Not fond of fat but very fond of butter and eats a great deal of it Two eggs in milk for tea Told to revise his diet omit the butter and the yelks of the eggs, and to eat meat In a week the pain in the head was lessened but the depression and other symptoms continued In another three weeks the headache was still further improved and he felt "much brighter" He then ceased to attend

CASE 25 —Housemaid, aged 28 She has dreadful thoughts" Her mind is confused She 'feels desperate" Cries a good deal and mopes Cannot sleep Cannot bear to be left alone but people being with her irritates her This has been gradually coming on for a year She has not touched meat for 18 months Has no breakfast and lives chiefly on bread and butter and milk puddings She never has headache She was told to revise her diet and eat meat but she was not efficiently supervised, and it is doubtful whether she carried out the instructions very faithfully At the end of a month she reported herself ' certainly improved" and then ceased to attend

CASE 26 —Widow, aged 77, says "My head is in a muddle I sit down to write a letter and I know what I want to write, but I can't write it. I often find I have written it wrong All of a sudden things go blank and I leave words out I am of a very worrying disposition and am always depressed" She suffers much from headache, and has to spend one day in every week in bed on account of it For two years she has eaten no butcher's meat but occasionally she eats an egg, or a little fish or chicken Lives chiefly on milk puddings Took to a vegetarian diet on account of indigestion Does not eat much fat or butter, but drinks large quantities of milk. Seen once only

CASE 27 —Married woman, aged 32 "I am tired of everything and everything is a worry I can t think. I have such pain in my head it makes me forget everything I sleep badly and all night my mind is on the work There is something in my head that causes everything to be jumbled up" She eats large quantities of raw rice and starch. She eats more than a teacupful of rice every day (a tablespoonful of rice will make a pudding large enough for four people). She does so because it is company for her and stops her from thinking She goes without her meals and eats rice instead Seen once only

CASE 28 —Farmer, aged 34 Lacks confidence in himself Cannot concentrate his mind upon his work Incapable of mental exertion Little things worry him excessively and unreasonably Sleeps well, but dreams much No headache Bad family history Has been a vegetarian for three years, living chiefly on grape nuts, bread and butter rice, macaroni, sago, and tapioca Cannot eat fat and is very moderate with butter Told to rearrange his diet and eat meat two or three times a day In a month he returned much improved He had an assured and confident demeanour, said he had a better grip on his work and had no difficulty in concentrating his mind

CASE 29 —Married woman aged 35 Has horrid thoughts and feels as if she were going out of her mind Silly things come into her mind The knives on the table suggest to her to do horrible things—injure herself or someone else She thinks she has done things that she knows she has not done—things like injuring people She has frequent headaches, with 'golden zigzags" Never eats breakfast. Dislikes meat often goes without and when she takes any it is very little Does not like fat but is fond of butter and spreads it thick Seen once only

CASE 30 —Married woman aged 48 "I can't think Everything seems altered I can't remember what things look like I have two children and I can t remember what they are like Oh yes, I know them when I see them Everything seems getting more and more strange' Husband says she complains much of headache and sometimes of giddiness Eats very little meat and a great deal of butter Lives chiefly on milky puddings and bread and butter Seen once only

CASE 31 —Married woman aged 37 Has a muddled feeling in her head and is apprehensive that something dreadful is going to happen and such awful depression Becomes frightfully tired after trifling exertion but the worst is the confused, muddled dazed feeling in her head Suffers from headache Has lived in India where meat or poultry has been on the table two or three times a day but the quality being so bad she rarely took it Not fond of sweets or fat, but eats much butter and cream and her chief diet is milky puddings Seen once only but I heard some months afterwards that she had taken my advice about her diet and was ' almost well"

CASE 32 —Man aged 42 Insomnia and depression Has attempted suicide three times Becomes confused in mind so that he cannot take orders in his own shop Not a great eater of meat, once or twice a week he goes without and when he does take any it is only once a day and then very were several verrucose tuberculous lesions —Dr J J PRINGLE regarded the case as one of tuberculous lymphangitis a model of which was in the St Louis Museum —Dr A. M H GRAY pointed out the frequent relationship between tuberculous lymphangitis and verrucose tuberculous lesions.—Dr A. EDDOWES related a case in which the elephantiasis disappeared

Dr S E. DORE Dermatitis Herpetiformis The case was somewhat unusual in the marked symmetrical distribution of the eruption and in the rapid way in which the condition responded to arsenic.

Dr H G ADAMSON A case of Recurrent Herpes in a boy aged 9 The first attack began when the patient was 1½ years old and since then he has had about 30 recurrences

Dr J M H MACLEOD A case of Necroses on the Fingers in a munition worker The patient, a female had to mould a certain composition paste and she stated that other workers suffered from the same condition

Dr G PERNET A case of Multiple Comedones on the Forehead in a boy aged 8 years

ÆSCULAPIAN SOCIETY —A meeting of this society was held at the Metropolitan Hospital Kingsland road on Feb 18th Dr Philip Hamill the President being in the chair —Mr Henry Curtis conducted a clinical afternoon and showed skiagrams demonstrating Deformities in Coxa Vara —Dr Edmund Cautley showed the following cases —1 A case of Acholuric Jaundice, a condition peculiar to families congenital, recurring, and associated with splenic enlargement The jaundice is transient, bile is absent in urine, but present in fæces Red blood cells readily break down and produce a yellow appearance. Toxemia is a common occurrence 2 A man aged 55 years with Sacculated Aneurysm of Ascending and Transverse Portions of Aorta pulsating on left side of manubrium Voice affected. Cause unknown. Patient improving under Tufnell's treatment —Dr J M Laughton showed a boy aged 16 years, who had been in the army and obtained his discharge because of his inability to march On examination an enlargement under the *left hypochondrium* suggested splenic enlargement and a blood count showed myelocytic leukæmia —Mr M R Laurence showed (for Mr R A. Ramsay) a man, aged 29 years with Enlarged Right Testicle and Secondary Deposits in Abdominal Glands (sarcoma beyond operation) —The President showed 1 A case of Wasting of the Muscles of the Shoulder Girdle and Upper Arm in a man aged 25 years, closely simulating Erb's dystrophy but really due to bilateral arthritis of shoulder with fixation of the joints No satisfactory cause for the arthritis was found 2. For comparison a case of true Erb's Dystrophy in a girl aged 16 years a very unusual occurrence 3 A case of Trigeminal Neuralgia in a woman aged 70 years successfully treated by alcohol injection of Gasserian ganglion 4 A case of chronically recurring Obstructive Jaundice with Enlargement of Liver and Spleen in a girl aged 15 years, in whom the corpuscular fragility was normal

THE BRISTOL INFANT WELFARE ASSOCIATION —Although the first school for mothers in this country was actually opened at St Pancras in 1906, Bristol was the first centre where this work has been coördinated into a definite scheme The first school opened in Bristol with which Miss A F M Cornall F R C S Irel was associated was at Broad Plain, the second at Barton Hill In January 1913 the necessity for proper coördination in infant welfare work became apparent and a council was formed with the medical officer of health, Dr D S Davies as chairman The assistant medical officer Mr J C Heaven also joined the council and later the school medical officer Dr R A Askins Under this control the number of schools has increased up to fourteen one of which has 200 members Miss F G Robinson is the honorary secretary of the association whose chief objects are to form a bond of union between all schools for mothers and kindred undertakings for the care of infant life which exist in Bristol If all such undertakings in Bristol worked on sound lines have an adequate supply of medical help trained teachers and experienced workers, a central organisation would be formed through which all voluntary infant welfare agencies might coöperate usefully with the municipal health committee in their infant care work

Reviews and Notices of Books.

The Roentgen Diagnosis of Surgical Lesions of the Gastro intestinal Tract

By ARIAL W GEORGE M D, Assistant Professor of the Department of Roentgenology Tufts College Medical School, and RALF D LEONARD, A B M D, Assistant in the Roentgen Department of the Boston City Hospital. London Newton and Wright Limited, Boston The Colonial Medical Press 1915 Pp 306 With 7 three-colour illustrations 18 artist's drawings and 343 Roentgen plate illustrations Price £2 5s net

IT is not sufficient to have an X ray plate in order to be able to recognise the condition which is present, it is necessary also to be able to read the plate, to understand the indications afforded by it, and to interpret them correctly The best results are to be obtained by those who work in an X ray department and afterwards verify or correct in the operating room the appearances shown on the plate The next best method of utilising to the full the X rays in medicine and surgery is to study plates taken by experts and to compare them with illustrations showing the condition found at the operation This book is intended to supply the student of "roentgenology" with plates showing the X ray appearance pictured and also the actual condition found, and we consider that the authors have carried out their purpose very successfully They always employ intensifying screens in all their gastro intestinal work, as it enables them to use a softer tube and a shorter exposure They are also in favour of employing a buttermilk meal in preference to the standard "Reidel" meal They rightly lay great stress on the necessity of always employing the same meal so that the conclusions drawn may be trustworthy The authors have adopted the Roentgen terms which are recommended by the American X Ray Society Some of them seem to be unnecessarily long We are told that Roentgen is to be pronounced *ront gen*, but we are not told whether the *g* is to be hard or soft Roentgenogram appears to us to be a less convenient word than skiagram

Precis de Pathologie Interne

(Bibliothèque du Doctorat en Médecine publiée sous la direction de A GILBERT et L FOURNIER) Maladies de l Appareil Respiratoire par M LOEPER Agrégé à la Faculté de Médecine de Paris Médecin des Hôpitaux et O JOSUE, Médecin de l'Hopital de la Pitié, Maladies de l Appareil Circulatoire, par M PAISSEAU Chef de Clinique à la Faculté de Médecine de Paris et M PAILLARD Ancien Interne Lauréat des Hopitaux de Paris With 175 illustrations and figures Paris J B Baillière et Fils Pp 748 Price 14 francs

WHEN all the projected volumes, to the number of 30, of the Bibliothèque du Doctorat en Medecine have appeared they will form a handy sized system of medicine, including the early studies, *and if* those yet to be published maintain the high standard set by those already issued the medical student in France may congratulate himself on the possession of a set of text books at once complete, accurate, and up to date The use of the word precis must not be taken to indicate that the scope of individual volumes corresponds with similar works in our own tongue variously termed "compends" or "aids," which are frankly intended as cram books for examination purposes. The size alone would preclude such a notion for the volume recently issued is the second of four devoted to special pathology, and deals with disease of the lungs in 349 octavo

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY

Exhibition of Instruments —Labour Obstructed by Ovarian Cyst —Fatal Rupture of Bladder during Puerperium —Chorion-Epithelioma following Vesicular Mole —Presidential Address

A MEETING of this section was held on Feb 3rd, Dr M HANDFIELD-JONES the President, being in the chair

Dr HERBERT R SPENCER and Mr E A BARTON showed a "Speculum camera,' a combined Fergusson speculum and camera fixed together by a catch, for taking photographs of tumours and the affections of the cervix and vagina

Dr HERBERT SPENCER also showed a Wire-fed Tubular Needle for use in closing vesico-vaginal fistulæ and a Needle holder for Vaginal Hysterectomy and Deep Pelvic Work

Dr WALTER SALISBURY read a communication on three cases of Labour obstructed by Ovarian Cyst Case 1 The patient had been in labour six days and the membranes had ruptured two days before her admission to hospital. The child was dead. A large tense cyst filled up the pouch of Douglas Dr T G Stevens opened the abdomen and lifted the uterus outside A dermoid cyst of the left ovary, of the size of an ostrich's egg, was removed and a dead child delivered with axis traction forceps per vias naturales The abdominal wound was then closed, and the patient made an uninterrupted recovery Case 2 A midwife finding that the descent of the head was obstructed by a mass which could be felt per vaginam, sent for medical aid, but a living child, weighing 7¾ lb was born before the medical officer could arrive The patient was sent into hospital, and Dr J B Banister opened the abdomen removing a semi solid multilocular cystadenoma of the left ovary weighing 2½ lb The cyst had ruptured and a large quantity of blood and mucoid material was present in the peritoneal cavity The patient made a good recovery Case 3 The patient was admitted into Queen Charlotte's Hospital in labour In the pouch of Douglas there was a hard, fixed mass which was diagnosed as an ovarian dermoid Dr R D Maxwell opened the abdomen. As the pelvic mass was not very accessible, Cæsarean section was performed and a living child delivered After this the tumour was removed The patient recovered Dr Salisbury discussed the different methods of treatment that had been adopted in these cases —Dr SPENCER recalled that the method of treatment of the first case had been brought before the Obstetrical Society of London by himself 18 years ago yet many unnecessary Cæsarean sections had in the meantime been performed in such cases In the third case there might be difference of opinion as to what should be done in labour when the os was not dilated Another treatment had not been mentioned which was much better than either waiting or Cæsarean section—namely, pushing up the tumour in the Trendelenburg position, which Bossi had shown 20 years ago to be quite easy Under anæsthesia this might be still more efficacious —Dr MAXWELL also spoke

Dr FRANCES M HUXLEY read a communication on a case of Fatal Rupture of the Bladder during the Puerperium

Dr CUTHBERT LOCKYER then read for the PRESIDENT a short communication on Chorion Epithelioma following Vesicular Mole The patient aged 49, was delivered of a vesicular mole 20 years previously In July of last year she expelled another vesicular mole For three weeks she made good progress, then hæmorrhage recurred Five and a half weeks after the passage of the mole the President saw her again in consultation and finding that the uterus had increased in size, performed hysterectomy The uterus was found to contain a small mass of chorion epithelioma which had invaded the muscular wall The President asked 1 With what degree of frequency does vesicular mole occur more than once in the child bearing history of any woman? 2 What is the earliest period at which well marked chorion epithelioma is found to be present after the expulsion of a vesicular mole? 3 Does this disease perforate the wall of the uterus with any degree of frequency before expulsion of the mole? 4 What constitutes the difference between malignant vesicular mole and benign cystic degeneration of the chorionic villi? He suggested that the resisting power of the uterine wall might be a factor of some importance —Dr AMAND ROUTH said that 30 years ago it was thought that if a woman had a vesicular mole she would be likely to have a recurrence if pregnancy again occurred He had however, never known of a woman having such a recurrence. He agreed as to the difficulty of detecting the degree of malignancy in chorion epithelioma, so as to be able to decide in what cases it was justifiable to remove the uterus if the lungs were already attacked or where it was hopeless to interfere.—Dr LOCKYER replied.

The PRESIDENT, in delivering his inaugural address, called the attention of the section to the need of enlisting the sympathies and activities of general practitioners in the work of the society At present the papers and short communications were contributed almost entirely by consulting surgeons and physicians, and the meetings were rarely attended by the family doctors who possessed such excellent opportunities of following a case through its entire length and of watching the effects of varied forms of treatment He pleaded for the appointment of special clinical committees to carry out a system of collective investigation and to obtain the assistance of large numbers of general practitioners in bringing forward and tabulating groups of cases In the course of his paper he narrated ten cases of double uterus, and demonstrated that this abnormality was not so rare as physicians had usually deemed it to be The clinical histories of these cases were given in detail and showed what an important bearing the subject had on diagnosis and treatment There was much work still needed before we could hold accurate views on the latency of tuberculous disease in pregnancy, or again on the comparative advantages and disadvantages of scopolamine in the course of labour, the views of hospital workers and teachers needed to be tested by the experience of general practitioners, and it was only by a carefully planned effort of collective investigation that this result could be obtained —Dr AMAND ROUTH welcomed the suggestion that a committee should be formed to collect cases of double uterus —Dr SPENCER alluded to the urgent need of collective investigation of rare and important conditions The treatment of cancer of the uterus was an instance If all London hospitals interested in this subject would consent to report their cases on identical forms we should have an incomparable mass of statistics

SECTION OF DERMATOLOGY

Exhibition of Cases

A MEETING of this section was held on Feb 17th, Dr J H STOWERS the President being in the chair

The following cases were exhibited —

Dr GRAHAM LITTLE 1. Sclerodermia with Concurrent Myxœdema. The patient was a woman aged 51. The disease began in 1902 with tingling sensations and pains in the limbs In 1907 symptoms of Graves s disease appeared In 1910 the sclerodermia started and this was soon followed by myxœdema. Before 1910 the patient had had frequent attacks of paratyphoid and had developed a condition resembling pernicious anæmia, which ceased after the teeth had been removed for pyorrhœa In 1911, and again in 1912 thyroid gland was implanted into the tibiæ with very marked improvement in the whole condition The patient has been taking thyroid internally since the myxœdema has disappeared and the sclerodermia is very much less marked —Dr F PARKES WEBER drew attention to the tingling sensations and pains in the limbs, which he regarded as premonitory symptoms of the sclerodermia ——2. Fungating Epithelioma of the Breast The patient had a small tumour in the breast 11 years ago which in 1913 had reached a size not exceeding that of a hen's egg The swelling was treated with X rays and improved, but an X ray burn was caused, which resulted in the tumour ulcerating Since then a swelling of the arm has existed, doubtless due to cancerous infiltration of the lymphatic glands and vessels

Dr W KNOWSLEY SIBLEY A case of Unilateral Tuberculous Elephantiasis of the Leg in a female aged 23 The first tuberculous manifestation to appear was an ulcer on the calf when the patient was a child Shortly afterwards she had an abscess over the hip and six years ago developed lupus of the cheek, leg and ankle all of which healed up after two years treatment Three years ago an ulcer appeared on the left foot, and about this time the elephantiasic condition commenced On the affected leg

THE REARING OF DELICATE INFANTS

Below are given particulars of duly authenticated cases which show that Savory & Moore's Food often proves to be the only food a delicate infant can take with satisfaction

Mrs H's Child — Very small at birth and delicate for months None of the several foods tried afforded any nourishment No progress made up to 5 months Savory & Moore's Food then tried with marked improvement from the first day Child less fretful and rested for longer periods Good progress maintained and regular gain in weight of ½ lb per week 10 lb gained in 4 months

Mrs B's Child — At birth a nice plump child but slowly wasted for want of a suitable food Cow's milk, by itself and with Barley Water Humanized Milk, and practically all the well known foods tried without success Nothing retained for more than a few minutes Child wasted rapidly and became so emaciated that backbone was through the skin At 3 months weighed 1 lb less than at birth. The first meal of Savory & Moore's Food was retained and the child thenceforward began to thrive At 6 months weighed 20 lb

Mrs F's Child — Fed on Milk and Barley Water, but only gained 2 oz in 5 weeks A well known food tried but child was never satisfied and suffered much from flatulency and constipation Savory & Moore's Food successful from the first day tried Thin, pinched appearance disappeared child relieved of wind and constipation quite cured Average gain in weight of 8 oz a week since Savory & Moore's Food was given

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The responsibility for applying this treatment is solely vested in the Profession The injections are intra-muscular and patients are never supplied direct

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pages, and with those of the heart and vessels in another 372

In the first portion of this volume general considerations are followed by directions for clinical examination—palpation, percussion, and auscultation—and instructions for the performance of exploratory punctures Then are arranged categorical descriptions of the special diseases of the various portions of the respiratory tract under such headings as definition, bacteriology, etiology and pathology, pathological anatomy, signs, symptoms and clinical forms, complications, diagnosis, prognosis, and treatment The microscopical appearances presented by the sputum in the different diseases are given especial prominence by means of coloured drawings, while the chief points in the cytology of pleuritic effusions are depicted in black and white, radiograms are introduced wherever their use gives information of diagnostic importance, and the illustrations of microscopical sections, though not numerous, have been selected with considerable care

The second part, dealing with cardiac maladies, opens with a carefully written account of the methods of investigating the cardiac movements by means of the sphygmomanometer, the œsophageal sound, and the electrocardiograph The diseases of the heart and blood vessels are then detailed, the general arrangement of each corresponding with that adopted in the preceding section Electrocardiograms are freely inserted, and occasionally radiograms are utilised The diseases of the blood itself (with the exception of the septicæmias which are briefly mentioned in connexion with acute endocarditis) are not included in this volume The volume is well got up and freely illustrated

LIBRARY TABLE

Back Injuries and their Significance under the Workmen's Compensation and Other Acts By ARCHIBALD MCKENDRICK, F R C S Edin, &c, Surgeon in charge of Surgical X Ray Department, Royal Infirmary, Edinburgh Edinburgh E and S Livingstone 1916 Pp 173 Price 2s 6d net—Injuries of the back are often exceedingly difficult to diagnose, for the patient may complain of pain and disability, and yet the surgeon can find little or nothing to account for the symptoms Moreover, these cases often come into the law courts in claims for compensation, and conflicts of medical testimony may occur In this little book the author has endeavoured to set forth the matter as clearly and plainly as possible, and since he starts from the very beginning, explaining the structure of the spinal column and the vertebral muscles, even a layman should be able to understand much of the subject Some such knowledge is indeed desirable, for laymen have not infrequently to adjudicate on these cases The author has put well in the preface the importance of these injuries "The workman looks upon them with apprehension, the insurance company with doubt, the medical examiner with suspicion, the lawyer with uncertainty, and the court with as open a mind as is possible under the circumstances" The value of X rays in the elucidation of many of these cases is great, and the experience of the author in this branch of medical work increases the value of the book

The Child His Nature and Nurture By W B DRUMMOND, M B Edin London and Toronto J M Dent and Sons 1915 Pp 223 Price 2s 6d—This little book is no stranger to those who are interested in child study, for it has already appeared in six previous editions as one of the Temple Primer Series It is a serious little work, well written, thoroughly up to date, and representative of the best thought and opinion on the absorbing matters which are properly included in the title. There are two chapters which have not appeared in former editions, one of these deals with defective children and is entitled "Children who never Grow Up," and the other is a critical review of the Montessori method. With respect to the much discussed system of education, the author says there is little new in what it teaches, lack of humanitarianism, and small appreciation of the individuality, physical and mental, of the child, which it seeks to educate Although Dr Drummond does not say so in so many words, he perceives the weakness of the system in that it does not recognise that no action of a child is spontaneous, and that everything it does is the result of stimulation, is, in fact, "reaction," direct or indirect The chapters on habit, as well as those on Froebel and the kindergarten, are quite admirable No one who has a responsible connexion with the education or management of children should omit to read this little book It contains most of what is valuable in the large and familiar text-books on school hygiene, the psychology of children and child study, stated succinctly and clearly We have seldom read a book of the kind with so much pleasure and one that offered fewer openings for criticism

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THE LATE FREDERIC ANTHONY, L R C P LOND, M R C S—Mr F Anthony died recently at Mannamead, Plymouth, in his forty ninth year He was the eldest son of the late Professor Anthony of the Western College, Plymouth, and was educated at the Bristol Medical School, where he obtained the Martyn Memorial Scholarship He was formerly medical inspector of schools under the Wiltshire Educational Authority and was for 12 years in practice at Ramsbury, near Hungerford, where he was medical officer for the district and workhouse About three years ago Mr Anthony had to relinquish his practice owing to bad health and since then had resided at Plymouth He leaves a widow to mourn her loss

MEDICAL DIPLOMAS IN A SALE ROOM —At Glasgow recently a man named Fisher was sentenced to a month's imprisonment for obtaining employment on board ship by falsely representing himself to be a registered medical practitioner There was no case on board the ship during the voyage which demanded the exhibition of Fisher s medical skill, so that the £12 10s which had been drawn by him as pay was not earned at the expense of any of the passengers but the sentence does not seem to us to be severe enough for a very serious offence An important point is to be noted by medical men with regard to the manner in which Fisher obtained the materials which enabled him to commit his fraud upon the ship s owners He had supplied himself with diplomas by the simple and not in itself dishonest, method of purchasing them with other papers at the sale of the effects of a genuine medical graduate These had been put up to auction in a London sale room Probably it does not often occur that a medical man, or his personal representatives after his death allows such documents to be sold, but the oversight if it takes place may have serious consequences for innocent people, and should be carefully guarded against in the interest of the public and for the credit of the medical profession Among the frequenters of auction rooms there may at any time be dishonest persons or others who having bought a lot for the sake of making a profit by re selling would not be likely to refuse an offer for papers of no value to them The fact that the papers would be worthless in the hands of an honest man and that they could only be profitable in the hands of a rogue might not occur to careless middlemen, or, if it did, might not weigh very heavily on their consciences

THE LANCET.

LONDON SATURDAY, MARCH 4, 1916

Health of Armies in Peace and War

USEFUL light is thrown on the health of an army at peace by the report of the Surgeon General of the United States on the Federal army for the year 1914, of which we give an abstract in another column. The army is, of course a small one, and in these days of European conscription appears tiny, but its total is considerable enough to allow of sound deductions being drawn from the relative figures Amongst more than 88,000 men, 41 died from tuberculosis, 15 each from pneumonia and chronic heart disease, and 10 from cancer, ratios not widely different from those for the British army during the five years preceding the war The soldier's vocation is a healthy one at all events during peace time, so far as the usual ailments of civil life are concerned. In regard to typhoid and small pox he is in a specially favoured position in consequence of compulsory vaccination. Only 3 cases of typhoid among the 88,000 were contracted in the Federal army, and 7 cases of small pox with a single death. If admission rate is taken instead of mortality rate, both venereal disease and alcoholism bulk largely in the figures, although showing a marked diminution in the last decade. It may fairly be concluded that, apart from the special temptations to excess, the health of the army in the United States in time of peace reaches a high standard, and this is the case with our own and with most other European armies. Turning now to conditions of war, it might reasonably have been expected that where armies are living under fighting conditions the figures would be less satisfactory Our Paris correspondent, however, in his letter this week, gives details showing that this is not always the case The more serious infectious diseases of civil life—scarlet fever and diphtheria, as well as mumps and less important ailments—have actually been less prevalent in the French army during the past year than in peaceful times Typhoid has been more frequent but also less fatal, the care devoted to its treatment having been greater Nothing, however is said of the various special ailments of the present war—shell shock, soldier's heart trench foot—and the omission may be intentional But apart from these and similar conditions, which are almost to be considered in the same category as the wounds of war due to actual fighting the inference seems to be justified that the health of the French army has not been adversely influenced by the fact of campaigning

Another series of figures has come under our notice in an analysis made by Dr Mosse, of Berlin the author of a well known work on Disease and Social Position, in a recent issue of the *Deutsche Medizinische Wochenschrift* He puts to himself the questions Is this or that disease in combatants now more frequent than in the corresponding age class before the war? Can any variation now be determined with certainty in the course of particular groups of disease, and can these, if present, be put down without hesitation as a result of military service or campaigning? Dr Mosse tests these questions on the large material under his hand in the military hospital at Buch He admits that the numbers dealt with are insufficient to establish more than a probability that the results are as he finds them. His first test was in connexion with diabetes In the year 1914–5 among 1427 soldiers between the ages of 18 and 30, four had diabetes. three of them with marked acidosis He compares this with the average figures given by the public health reports of the Prussian army in the years 1907–1912, 28 cases in 320 000 troops, and concludes Diabetes mellitus is therefore more frequent among youthful combatants than in the same age group during peace Dr Mosse's second test deals with nephritis, and here again in the soldiers sent back from the eastern field of battle a much larger proportion (4 3 per cent) suffered from nephritis, nearly all in acute form and frequently hæmorrhagic, than in the army during peace (about 0 025 per cent) This latter number is almost the same as the percentage of cases of nephritis in the two clinics of the Charité Hospital, Berlin, during the year 1910, a group which included chronics and old men. For phthisis and neurasthenia Dr Mosse is unable to advance any useful figures He concludes with a reference to the extreme infrequency of infections among his 6414 patients there were only 11 cases of typhoid, 2 of paratyphoid, 3 of cerebro spinal fever, 3 of dysentery, 9 of scarlet fever, 2 of diphtheria, and 3 of small pox.

The times are still not far distant when armies in the field were devastated by epidemic disease, and the French public health service may well be proud of the present state of affairs at the front, as well as the minute, almost microscopic differences, which obtain between the health statistics of their army in war and in peace The Red Cross service has, since it was founded by Henri Dunant half a century ago, revolutionised the mortality among the wounded and has earned its meed of praise The sanitary service of our own and other armies has grown up at the same time with the result of steadily reducing the incidence of infectious diseases and in areas where this service has had full scope it has almost abolished the severer risks The brief account which we recently published under the title of "The Duties of a Sanitary Section in the Field,"[1] does no more than justice to this section, and we cordially endorse the words of the writer when he says It is good to think that there is such a body of expert workers who can assist the Royal Army Medical Corps in watching over the health and sanitation of the soldiers As the outcome of scientific medicine the work of the British Sanitary Section is a legitimate subject of pride

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[1] THE LANCET, Feb 19th, 1916, p 432.

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of coördinating the figures, duly ascertained by systematised methods, should be performed in the office of the Registrar General from records forwarded by coroners, and he gives reasons why the task should not be overwhelming Then, when the time comes for the consideration of such topics at our leisure, an inter departmental committee might undertake the task of securing statistical uniformity We believe that in certain forms of violent or unnatural deaths we should thus obtain a field for investigation and an opportunity, hitherto neglected, for saving life This small volume is a clearly written and practical exposition of the subject, and points the way to a valuable reform in our administrative methods

Annotations

"Ne quid nimis"

THE HEALTH OF FEMALE MUNITION WORKERS

REFERENCE has been made frequently in these pages to the questions regarding the health and welfare of munition workers which have arisen out of the circumstances of urgency in which factories have been established to meet the demands of war It is not a matter of merely temporary importance, for the workers concerned are citizens who will have to carry on the life of the nation when peace is established, and for this the preservation of their physical and moral well being is necessary, we ought, moreover, to be able to learn valuable lessons to guide us in the elimination of some of the evils of factory life in the future The undesirable conditions at present existing may be to a large extent of a transitory nature, but their after effects will be grave unless every possible effort be made to mitigate them Men and boys, as well as women and girls are concerned, and young persons of both sexes should receive special attention to their needs because of their value to the country in the future It has to be remembered that a large number of munition workers of both sexes have had no previous experience of factory life while many will probably leave it for other activities when the present demand for their services ceases The need for Sunday rest, the evil of long hours, and the recommendations of the Munition Workers Committee on the subject were referred to in our issue of Dec 11th, 1915 and the recent Memorandum IV of the Committee commented upon in THE LANCET of Feb 19th, will be found to contain a discussion in some detail of periods of employment with special regard to the case of women The Memorandum also praises their patriotism, but it finds that conditions of work are accepted uncomplainingly which are detrimental to output at the moment, and which if continued would be disastrous to health None can defend a system of prolonged toil, either now or in time of peace which has not even the excuse of an improved output to justify it, and no doubt maintenance or reduction of output will be found to supply a test as to whether hours are excessive and should be curtailed for the protection of the worker's health The assistance of the "welfare worker" is needed as well as the supervision of the Home Office and the coöperation of employers if the dangers of factory life in many of their ramifications are to be met but persons with the desirable degree of experience cannot be readily obtained Efficiency may, however, be found in those who undertake a special task for the first time, if they have had some experience of a cognate kind to guide them, while possessing willingness to learn and adapt themselves to new employment A woman with motherly instincts and experience who has at one time nursed in a hospital, or who has some practical knowledge of plain cooking and of housekeeping, should not take long in accustoming herself to the ways and mental outlook of the munition worker, whether young girl or woman, and should be able to establish herself as the friend and guide which many of them need In certain cases it seems likely that the functions will have to be combined, and a woman who has once done responsible work, with others under her, in the wards of one of our hospitals should have invaluable qualifications both for the supervision and "nursing" of munition workers of her own sex We say this because we think that there must be some so equipped who have not yet found a place in our military or other hospitals, and who may be seeking to do work useful to their country in its need Many may be engaged upon "war work" of some kind already, but performing duties of a class that does not give play to their special talents For these there is an opening if their circumstances allow them to avail themselves of it, in helping to obtain better food and better conditions for consuming it, better housing accommodation, and more wholesome lives for the women and girls who now are doing work in thousands under conditions hostile to their personal welfare To furnish sound advice and to hold out, if needed, a warning and restraining hand will also be part of their functions and not the most easy to perform It would enormously increase the chances of securing the right women for welfare work if there was a big fund from which to remunerate such service The class in which the best women could be found have not as a rule substantial private incomes

PULMONARY TUBERCULOSIS IN THE ARMY

A LARGE number of men have been invalided from the army suffering from pulmonary tuberculosis, and correspondence has recently taken place as to the measures which should be adopted in regard to them In a recent letter to the *Times* Sir Frederick Milner protested strongly against pensions of any kind being refused to these men, and quoted a case in which a man gave up a good place, where he was earning 35s a week, to join the army, and was later discharged from service for phthisis The Director General of Medical Services was appealed to, who admitted that it was not in dispute that the man was quite healthy when he enlisted, that there was no trace of pulmonary tuberculosis in the family, and that the disease was contracted in the service, but he said that the Medical Board had decided that the condition was not due to service, thus throwing the responsibility of the decision on the Medical Board A discussion took place in the House of Commons on Feb 17th on an amendment to the Address, expressing regret that there was no mention of any intention on the part of the Government to accept responsibility for the payment of pensions and allowances to all soldiers and sailors discharged from the army and navy on account of diseases contracted or developed during service with the colours Mr Forster reminded the House that by

Statistics of Deaths from Violence

BETTER statistics of a large class of deaths which are in one way or another preventable, and whose causation is for that reason a fitting concern of the State, are in great requisition By better statistics we mean not only more accurately collected so that few instances may escape record, but tabulated in a more orderly and uniform manner, so as to be readily accessible, and subdivided under headings selected with a view to the maximum of useful information being obtainable under official guarantee as to its trustworthiness An interesting pamphlet has just reached us, written by Dr W A BREND, lecturer on forensic medicine at Charing Cross Hospital, which well indicates the importance of statistics as a basis for legislation in matters connected with human life,[1] and Dr BREND has no difficulty in showing that there is room for vast improvement in our methods of dealing with official figures We have separate reports, with good reason, from Government offices, each of which deals with fatalities occurring in the activities under its special purview, but Dr BREND contends rightly that there should be uniformity in the methods of collecting and collating the figures, enabling the different reports to be compared with one another and with the reports of the Registrars General of England, Scotland, and Ireland Such a chance of general coördination would greatly increase the value of the whole series

From the reports of coroners' inquests we should obtain useful statistics which are now practically useless because of the absence of system and of uniformity of areas The return of coroners' inquests tabulates deaths according to coroners' areas, many of which are not co terminous with any other areas, while their populations are not known and cannot be determined from any published source In other returns the administrative areas are used, and in yet others the registration areas, while in his principal table relating to violent deaths the Registrar General for England and Wales gives, as Dr BREND points out, no local subdivisions at all Moreover, the various reports from which statistics must now be extracted, and extracted according to his own principles by the individual inquirer, are not even unanimous as to the boundaries which they assign to the countries of the United Kingdom The Registrar General assigns Monmouthshire to Wales the Home Secretary when issuing coroners' returns and the return of accidents from vehicles places it in England The Isle of Man and the Channel Islands sometimes figure statistically as parts of England, at other times and in other documents they do not Lack of uniformity is not, however, confined to areas Dr BREND points out that as between different returns there is variety of period, that of Jan. 1st to Dec. 31st being generally, but not universally, adopted But there are also varieties of periods in cases where deaths are classified according to the ages of the deceased, and varieties of nomenclature, so that even such words as "manslaughter" and "abortion" mean different things when used by the Registrar General and by the Home Office We have referred to the desirability of headings being so selected that the greatest possible amount of information might be afforded by the statistics compiled under them. This clearly cannot be the case unless the returns of figures which appear beneath the various headings are obtained from the whole country, and unless the terms employed convey the same meaning in all the returns made

Dr BREND'S observations upon statistics as to the overlying of children prove very well the need for coördination among our various Government Departments in the matter of official records The Home Office records 1173 verdicts of suffocation of children while in bed with their parents or others, but does not define 'children," the verdicts being either "open" or the deaths being termed accidental The Registrar General records 1247 deaths of children under 1 year of age and deaths of 13 children between 1 and 2 years of age found suffocated in bed, but does not distinguish between those who have died when alone in their beds from those who were sleeping with other persons The Registrar General for Scotland records 97 deaths from "over laying" of which 96 were of infants under 1 year The Registrar General for Ireland records 65 deaths, 57 being of infants under 1 year, as due to the absorption of deleterious gases (conflagration excepted), a form of heading under which deaths are also tabulated by the Registrar General for England It will be seen from the above that in Scotland deaths occurring from overlying have a heading to themselves, and that in England they form probably a large proportion of the deaths of children by suffocation when in bed with others, but we are reminded that not all of these are overlain In Ireland deaths of this class are included among those due to the absorption of deleterious gases, but apparently are not further distinguished It will be seen from this that anyone interested in the conservation of infant life, who might wish to deal with a highly important section of his subject, would be unable to do so with any accuracy as far as official records are concerned He would find ascertained figures covering part of the ground only, and would have to supplement these for the rest of the kingdom by estimates and deductions Similar difficulty exists in many other directions, although the machinery from which the greater part of the statistics requisite could be compiled is already in existence It might be undesirable to burden coroners with the making of fuller reports, and difficult to ensure in all such reports a level amount of accuracy and detail But undoubtedly there are classes of deaths of which our knowledge is seriously inadequate Dr BREND S suggestion is that the task with different tensions or lengths of the muscles, though in some animals there appear to be muscles separately concerned in postural contraction and movement respectively Besides the afferent nerves of the muscles themselves being the source of the reflex, other sources may be present, especially those derived from the labyrinth The centre of the reflex arc is pre spinal, lying in or near the posterior region, the cerebellum, too, is concerned with refined adjustment and correlation In the same way, postural contraction exists for such viscera as the bladder and stomach, the musculature in each organ being capable of maintaining an equal degree of pressure with varying lengths of muscle or varying capacity The term ' capacity ' is in these cases similar to posture in skeletal muscle Certain qualities of tonus are striking For instance, the chemical energy involved by it is extremely low, very much lower than the energy consumed by a sustained tetanic contraction It has been suggested that in postural contraction the muscle fibre or some part of it clots, changes from *sol* to *gel* and nervous impulses must be capable of causing it to unclot The sarcoplasm would seem to be the coagulable element Certain diseases such as congenital myotonia and myasthenia *gravis*, forcibly suggest that the functional mechanical activity of muscle is two fold in nature—tonic and non tonic Since it has been shown that there are two kinds of motor endings in striped muscle it is suggested that one is concerned with tonic contraction and is derived from the sympathetic Finally, Professor Sherrington concludes, "reflex maintenance and adjustment of posture is a chief portion of the reflex work of the proprioceptive system, just as sensation of and perception of posture is a chief portion of the psychical output of that system "

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[1] An Inquiry into the Statistics of Deaths from Violence and Unnatural Causes in the United Kingdom with Special Reference to Deaths from Starvation Overlying of Infants Burning Administration of Anæsthetics and Poisoning By William A Brend M A Camb M D B S Lond of the Inner Temple Barrister at Law London: Charles Griffin and Co 1915 Pp 80 Price 3s 6d. net.

HOME PROBLEMS AFTER THE WAR

A VERY important movement has been begun under the auspices of the National Housing and Town Planning Council, having reference particularly to problems relating to housing and agriculture and to the possibilities of averting unemployment in the building trade A national congress to consider "Home Problems after the War is to be held at the Caxton Hall London from April 11th to 14th next, and an influential Parliamentary and organising committee has been formed A preliminary programme of the subjects to be discussed has been drawn up It is very rightly pointed out that the country has a debt to pay to those who have in a fine spirit of patriotism responded to her call But unless there is shown a readiness to prepare plans and schemes to be placed in operation at the close of the war the country may be plunged into a grave crisis of unemployment, and those men who are serving their country by land and sea may return home to face out of work conditions, with all the waste of public money and individual suffering that unemployment brings in its train It is not suggested that the State should provide capital for the purpose before the close of the war as clearly the whole of the financial resources of the kingdom should be concentrated on war work It is most desirable however that plans should be prepared designs exhaustively considered areas in which houses are to be built properly planned provisional agreements for the purchase of land arranged and all the preliminary details completed ready for actual building operations to be commenced without delay when the war closes The subjects for discussion at the congress include the need for financial help in schemes for the clearance of insanitary areas, when the results in better citizenship and greater productive capacity, which will accompany the raising of the standard of life of the people as the outcome of the improvement of housing conditions, can be considered. Among other important questions to be discussed are the provision of homesteads with small holdings, the intensive cultivation of land and the finding of capital to aid all classes of cultivators of the land and developers of our rural resources The importance of the work which this organisation is taking in hand is so obvious that the movement should receive widespread encouragement and support

TUBERCULOSIS IN THE PIG

AN interesting study of the special features of porcine tuberculosis is given in two papers published in the *Annales de l Institut Pasteur* for November and December, 1915, by M P Chausse The first of these contains a critical review of previous work upon this subject From the statistics given in these papers it would appear that tuberculosis is much more common in pigs in some countries than in others, the morbidity found at different abattoirs varying from less than 0 1 per cent in those in France to as much as 10 per cent in the Argentine and in Germany Reference is made to an annotation on the observations of Dr A Eastwood and Dr F Griffith published in our issue of May 2nd 1914 in which among 24,144 pigs examined at Brighton 2 73 per cent were found to be tuberculous of which about 1 5 per cent showed generalised lesions At Versailles during the four years 1910–13 the incidence was found to be from 0 44 per cent to 0 63 per cent As a result of his observations M Chausse arrives at the conclusion that whereas man the ox and the dog are usually infected with tuberculosis by inhalation, the pig is almost exclusively infected through the tonsils and the cervical lymphatic glands He is of opinion that this is due to the fact that the pig is often fed upon waste milk, mixed from various sources and not sterilised It would appear that the lung of the pig is only *affected* when generalisation occurs when it shares with the liver and the spleen the liability to the greatest number of lesions The kidneys are very rarely involved, as is also the case in man the ox the dog and the guinea pig while in the rabbit generalisation often involves the kidneys very severely The tuberculous virus seems to have the smallest affinity for the kidney in the pig and the guinea pig M Chausse finds that the sensitiveness of the pig to the tubercle bacillus is very *great* The encysted and latent lesions so frequently seen in man and the ox do not occur in the pig whereas generalisation of the lesions, which is relatively rare in man and the ox, is the rule in the pig Lesions in the peripheral lymphatic glands and in the bones are particularly common in swine and wherever the parenchyma of any organ is attacked by *tubercles* the regional lymphatic glands are constantly *affected* provided the animal survives for a sufficient *time* Neither fibrous transformation nor any other form of retrogression occurs in porcine tuberculosis, on the other hand, caseation is early and frequent M Chausse explains the differences of incidence in different animals as follows He supposes that with a tubercle bacillæmia of given intensity in the pig many of the bacilli will lead to lesions in the lungs the liver and the spleen whereas in the dog and the ox a large number of the organisms are the terms of the Royal Warrant the disability or injury of a man, in order to qualify him for a disability pension, must be due to his service as well as having originated in it, and that a Medical Board certified whether disease was or was *not* due to a man's service He further stated that it was a mistake to suppose that there was no appeal from that decision, the medical authorities and the whole of the staff of the War Office approached the consideration of the question in a spirit of great sympathy It might be, he said, that some Medical Boards had been unduly harsh and narrow in their interpretation of the terms of the Royal Warrant They ought rather to consider each case on its own merits and no general rule could be laid down A man who has only been enlisted three or four months and is then found to be suffering from pulmonary tuberculosis cannot be considered to have acquired the disease by military service Reference has already been made in THE LANCET of Feb 5th, p 323, to a number of ex sanatorium patients on active service, some of whom were known to have bacillary sputum, and we have recently heard of a private in a Scottish regiment with frequent blood in his sputum, and reduced to various expedients to conceal this and his other disabilities, whose condition was made light of by his regimental officer On the other hand, if a man has been in the army for several years, being perfectly well during that period and giving no history of any previous chest disease and then, after 12 months' service in France, develops the disease, it may be said with justice that the malady was due to active service, and then undoubtedly it would be only fair that he should receive attention But between these extremes many cases turn up when the decision is a difficult one Some instances occur in which a history of previous pulmonary tuberculosis is given and in which arrest has taken place, then, of course, the condition has been "aggravated" by active service, in others perfect health has been previously enjoyed We contend, therefore, that the Medical Boards are perfectly within their duties in ascribing some of the cases to line service the specific cause being "exposure to climate and infection," for doubtless large numbers of men suffering from the disease must be recruited from the ranks of the "chronic carrier," to the production of whom by our present methods of sanatorium treatment a correspondent calls pointed attention in another column In such cases full pension should certainly be given Many questions arise as to the treatment of the men after discharge If a man has been insured prior to joining the army the Tuberculosis Commissioners under the National Insurance Act take charge of him, and he is sent to a hospital or sanatorium Much disappointment has been caused by well meaning persons assuring the patients that they will at once be sent to a sanatorium, when it may turn out that a special hospital is indicated Further, the difficulty that at once arises is that the men hesitate to take advantage of the treatment, especially if they are married, as they do not know how those dependent on them will be provided for Here again the question of a pension becomes paramount, and it is urgently necessary that some immediate steps should be taken to provide the necessary funds We are glad to hear from Mr Forster that the Government has set up a new body, competent to deal with cases, tuberculous and other, that fall outside the strict limits of the terms of the Royal Warrant, and has indicated that these cases will have to be dealt with largely out of public funds

MEASLES AND DISTRICT NURSING

THE order for the compulsory notification of measles was, by a happy coincidence, issued just at a time when a committee of the London District Nursing Council was elaborating a scheme for the nursing of measles and whooping cough. This important scheme has been accepted by the council, and is to form the basis in London of a more efficient system of home nursing which should serve to reduce the lamentable death rate from measles and other diseases among the children of the poorer districts The scheme has involved a modification of the existing rules of district nursing associations in order to admit of attendance on cases of infectious disease It has also dealt very carefully with the position of the nurse in regard to cases in which no doctor had been called in, and the rules have been so drawn as to prevent the district nurse from assuming any responsibility for medical treatment We hope there may be no delay in getting to the practical application of a scheme of such beneficent intention

POSTURAL ACTIVITY OF MUSCLE AND NERVE

MOST skeletal muscles present the property of tone, by which is meant a "slight constant tension which is characteristic of healthy muscle" (Hughes Bennett) It is a property which is difficult to measure, and as a term it has come to be applied not only to muscular action, involuntary as well as voluntary, but to such activities as "nerve centres," and even the "bio tonus" of living matter It is supposed to signify lasting or enduring action as contrasted with evanescent or passing It is known that much of muscular tonus is reflex, and in a paper Professor C S Sherrington (*Brain,* 1915, vol xxxviii., p 191) brings forward important evidence to show that the chief function of tonus may be concerned in the general maintenance of posture in the animal, and this with the least possible expenditure of energy A valuable key to the elucidation of this function in relation to skeletal muscle is the viewing of individual muscles not only from their isolated activities but from their activities in relation to general purposive efforts For this reason reflex efforts, often involving complex actions, may give a surer clue to the meaning of any individual muscular act concerned therein than if the muscle were studied independently Two supposed purposes of this skeletal tone are easily dismissed in so far as they are represented as being the principal functions of this property That tonus merely obviates a muscle's "taking up slack" is hardly significant when the latency of a toneless frog's muscle is but 1/100 of a second So, too the view that tonus is an important source of heat production is not tenable, since it is found that the chemical energy concerned in tone is remarkably small. It is found that in the decerebrate preparation, where tonus is a well marked feature, this property is limited exactly to those muscles which are in active contraction during the extensor phase of the step; the distribution of the tonus is arranged on a plan of strict coördination. This reflex tonus embraces just those muscles which counteract the effect of gravity, it is postural contraction The afferent nerves producing this postural reflex are those of the contracting muscles themselves. The tonus can be maintained

AMŒBIC DYSENTERY

AN excellent monograph on this subject from the pen of Professor V Gabbi[1] has just been published under the auspices of the School of Tropical Diseases attached to the Royal Medical Clinic of Rome We have only space to notice a few points likely to be of interest to our readers Professor Gabbi thinks that the balance of evidence is very largely in favour of the Entamœba histolytica being the true cause of this form of dysentery, and points out several marked characteristics which differentiate it from the Entamœba coli The movements of the former are rapid and energetic, whereas those of the latter are exactly the opposite In the granular endoplasm of Ent histolytica red blood cells and their fragments are almost always present, while they are never seen in Ent coli. There are vacuoles in Ent coli but not in Ent histolytica The nucleus in Ent histolytica is situated eccentrically, has ill defined outline and a diameter of 4 to 6 μ is of oval shape, with but little chromatin, has a vesicular nucleolus, and is often partly hidden by the granular endoplasm The nucleus of Ent coli has well defined outlines, a spherical shape, is sharply differentiated from the granular endoplasm, contains much chromatin and has an indistinct nucleolus In Ent histolytica the pseudopods are thick and formed of projections of the hyaline protoplasm , those of Ent coli are thin and finger like, soft and flaccid, and are formed from the endoplasm In Ent histolytica the cystic stage is represented by a spherical body with sharp outlines and contents of a uniform pale grey without any apparent structure, in Ent coli the contents are clear and transparent and covered by a transparent gelatinous membrane In Ent histolytica asexual multiplication takes place by binary fission or gemmation, or sexually by cysts giving rise to resisting spores, while in Ent coli asexual reproduction is by binary division or by the formation of eight daughter cells, sexual development originates in the nucleus from which eight small nuclei or amœbules arise The cysts of the two kinds of Ent amœbæ are difficult to distinguish those of Ent histolytica are, however, not so distinctly spherical, are smaller and more refracting and grey in colour, containing four nuclei instead of a large vacuole While laying stress on the efficacy of intramuscular injections of emetine as a cure both for acute and chronic cases, Professor Gabbi states that in rare instances it is ineffectual in which case recourse must be had to other drugs, such as decoction of simaruba officinalis in doses of six grammes in 200 c c of water a wine made from Rokra, a Madagascan plant the seeds of Brucea sumatrana or a decoction made from Ailanthus glandulosa For local treatment he mentions injections of thymol (1–6000), nitrate of silver (1–1000), quinine (1–1000) sulphate of copper (1–2000), boric acid (1–100), tannic acid (1–500), and permanganate of potash (1–4000) but has found that, with the exception of the first three they are without effect He further advocates attention to the following personal rules avoidance of exposure to cold draughts which induces digestive disturbance and diminishes the resisting power of the intestines of excess of food of the use of alcohol especially in the tropics so as not to create in the liver a *locus minoris resistentiæ* conducive to the formation of abscess; and of the use of iced and cold beverages He further advises that the use of boiled water should be from time to time suspended and natural mineral water drunk in its place

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[1] Malaria e Malattie dei Paesi Cal i Anno vii, Fasc I January-February 1916 Rome Via Farini 62.

THE LOSS OF THE "MALOJA"

WE regret to learn that Mr W K. Miley, senior medical officer of the Indian Emigration Department, lost his life in the *Maloja*, the splendid boat of the Peninsular and Oriental Line which was sunk on Sunday last off Dover—it is said through contact with a mine Fortunately, Mr E Kennington, the ship s surgeon, is saved

For the second time in two months copies of THE LANCET mailed to subscribers in India, Egypt, British East Africa, Aden, Persian Gulf Ports, Zanzibar, Malay States, Straits Settlements, North Borneo, Sarawak, Siam, Manila Dutch East Indies, and Hong Kong have gone to the bottom of the sea On the first occasion the *Persia* was torpedoed on Dec 30th, 1915, when she was carrying the copies for Eastern subscribers of our issue of Dec 18th, the second occasion was that of the "mining" of the *Maloja*, when she had the issue of Feb 26th on board It is particularly unfortunate, so far as the latter occurrence is concerned, that the *Maloja* was carrying in addition a second supply of the issue of Dec 18th to take the place of the copies lost in the sinking of the *Persia* It is therefore requested that only those subscribers who bind their copies of THE LANCET will apply for the issue of Dec 18th, as our stock of copies for this date is nearly exhausted

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H.R H. the Duke of Connaught, Grand Prior of the Order of St John of Jerusalem in England, has approved of the appointment of Sir William Bennett, K.C V O , F.R C S , to be surgeon in chief to the St John Ambulance Brigade

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THE debate on War Injuries of the Jaws and Face, which was opened on Feb 28th at the Odontological Section of the Royal Society of Medicine, has been adjourned until Monday next, March 6th, at 5 30 P.M

Dr M Weinberg, head of the laboratory of the Pasteur Institute in Paris will deliver a lecture on "Bacteriological and Experimental Researches on Gas Gangrene before the Royal Society of Medicine, in the Robert Barnes Hall, on Friday next March 10th, at 5 P M There will be an epidiascope demonstration

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LITERARY INTELLIGENCE—Messrs J and A Churchill will publish shortly a translation by Dr Martin H Fischer professor of physiology University of Cincinnati of Dr Wolfgang Ostwald s Handbook of Colloid Chemistry " which deals with the recognition of colloids, and their general physico-chemical properties

DONATIONS AND BEQUESTS—By the will of Isabella Countess of Wilton the following among other bequests are made —£1000 each to the Hospital for Epilepsy and Paralysis Maida Vale W the Fever Hospital Islington the Royal Blind Pension Society the Indigent Blind Visiting Society the National Blind Relief Society, the Taunton and Somerset Hospital and the London Hospital The residue of the estate about £200,000, is left to the King Edward s Hospital Fund destroyed in the blood, and only a few survive, causing scanty visceral lesions With small doses in the dog and the rabbit all the bacilli may be destroyed by phagocytosis

DEAFNESS AND MUTISM DUE TO A SHELL EXPLOSION CURED BY INHALATION OF ETHER

IN the *Boston Medical and Surgical Journal* of Jan 27th Dr D P Penhallow has reported from the American Women's War Hospital, Paignton, the following case A soldier, aged 25 years, was admitted on July 30th, 1915, suffering from marked emotional shock While in a trench at Ypres on July 1st two shells burst, the first near his feet killing six men and leaving only him and a sergeant, the second near his head Strange to say he was not wounded by either The noise was terrific and after the explosion everything became dark and he apparently lost consciousness and knew no more until he found himself in hospital at Rouen When he regained consciousness he was deaf, dumb, and blind A few days later he regained his sight and soon afterwards could hear in one ear On admission he was a well developed and well nourished man, rather confused, vague, and nervous On his first night in hospital he was said to have answered a question asked him by the nurse as to his trouble by the word "concussion" Except on that occasion when asked to speak, he could make only expiratory efforts, but no sound When asked to whistle he did the same He was still deaf If spoken to he paid no attention, but on clapping the hands near his ear or attracting his attention he seemed to understand what was said He intimated that he could hear a little better with the left than the right ear Coördination, sensation, and movements were apparently normal There was marked tremor of the hands but none of the tongue He walked with a slow, deliberate, careful gait, with his eyes on the ground and toes flexed, and held rigidly—a typical "tight rope" gait With the eyes closed he nearly fell and he could not stand on one leg The knee jerks were moderate On testing the plantar reflex he pulled the whole body away and a general body tremor followed The toes were spastically extended and later flexed To the small electric light there was marked photophobia On Sept 22nd he apparently could hear well, his gait had become normal, and the tremors had disappeared, but he still could make no vocal sounds On Oct 1st it was decided to give him ether to see if the relaxation would cause him to regain speech During the induction he reviewed in a loud tone the whole scene which occurred when he lost his speech On recovery from the ether he could talk perfectly well He stated that he could hear much better than at any time since admission Dr Penhallow regards the case as an unusual manifestation of hysteria, the result of the strain at the front to which men are constantly exposed

THE PURIFICATION OF VACCINE LYMPH

IN our issue of Dec 4th 1915, p 1259, we had occasion to notice a communication in *Il Policlinico* of Oct 24th by Professor L M Spolverini on the advantages obtained by treating glycerinated lymph with oil of cloves Attention was drawn to the researches of Professor O Leoni, of Rome, and of Dr S M Copeman, F.R S, of the Local Government Board, in this country on glycerinated lymph, and we mentioned that while the addition of glycerine had been used as far back as 1870 merely with the object of preserving the lymph, Leoni in 1894 had shown its beneficial effect in purifying it from bacterial contamination In justice to Dr Copeman, however we should also have mentioned that this observer's first paper on the subject was published in the Transactions of the International Congress of Hygiene in 1891, three years before Leoni's work, which was referred to by him in later papers as confirmatory of his own

WAR SHOCK IN THE CIVILIAN

WHILE the stress of war on the soldier is discussed, it should not be forgotten that the nervous strain to which the civilian is exposed may require consideration and appropriate treatment In its extreme form it is to be found in the old French peasant woman living within sound of the guns, who lies awake all night picturing to what her soldier sons are exposed, and fearing what may be the news of the morrow Or we see it in the children who after residence in a bombarded town wake in terror at night to the slightest sound which suggests to them the horror of the exploding shells In this country, further removed as it ordinarily is from the actual scenes of warfare, naturally these are not present in the same degree, although by no means uncommon Professor Louis Renon, physician to the Necker Hospital in Paris, has recently published a study under the title "L Angoisse de Guerre et son Traitement,"[1] of which he has observed some hundreds of cases within the last eighteen months He finds the clinical characters fairly constant, a neuropathy associated with certain definite physical signs There is generally a neuropathic or arthritic soil and the abuse of alcohol predisposes Insomnia is nearly always an antecedent A special form of anxiety is present aggravated by the slightest impression from without, such as the receipt of a letter or telephone message The disposition becomes unstable and the temper uncertain Weight is steadily lost Of physical signs, tachycardia is constant, varying from 90 up to 120 beats per minute, arterial tension is reduced, epigastric pulsation frequent The tendon reflexes are increased, while the cornea and pharynx may be anæsthetic Dermography is nearly always present The malady is no new one, and M Laumonier has recorded its occurrence "on the occasion of all great catastrophes, earthquakes, fires, epidemics, and the like, which expose the individual to an intense mental shock" Professor Rénon considers that it is only remotely related to the psychoses of war, and is due rather to a fault of equilibrium due to failure of normal sympathetic nerve currents, especially from the solar plexus He therefore calls the condition a "plexataxy" For treatment he relies on psychotherapy directed towards convincing the patient that the ills are less grave than he supposes, on the sedative effect of warm baths, in which the famous "tilleul" (infusion of lime tree flowers) is not to be despised, and on a course of remedies soothing to the nervous system, such as lupulin, drosera jusquiame (henbane), and the like, with teaspoon doses of 2 per cent bromide of calcium if the other remedies fail Professor Rénon's remedies may seem to have a local colour, but his general teaching is doubtless of wider application

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[1] Société de Thérapeutique Jan 12th 1916 and Journal des Praticiens Jan 15th 1916.

CENTRAL COUNCIL FOR DISTRICT NURSING IN LONDON

FIRST ANNUAL REPORT

THE Executive Committee of the Central Council for District Nursing in London presented its first annual report to the council on Feb 25th In THE LANCET of July 24th, 1915, we described the circumstances which led to the formation of this council and summarised a report presented at that time on district nursing in relation to measles, German measles and whooping cough. A practical scheme was then foreshadowed and the principal work of the committee has been the working out of this scheme which is now published as a separate leaflet [1]

Scheme for the Nursing of Measles and Whooping cough

The object of this scheme is to secure the provision of timely nursing care—in proper relation to medical advice—with a view to saving the lives and preventing permanent injury to the health of young children attacked by measles or whooping cough It is generally agreed that if due care were taken from the onset the mortality of measles and its complications would be greatly reduced It is important therefore that such care should be secured with the least possible delay It often occurs that medical aid is only summoned after the illness has developed a serious character or complications have arisen which might have been avoided by proper care and attention It is hoped that on the advice of an experienced nurse, such timely aid will be brought to the patient and not be deferred until it is too late

The leaflet then goes on to call attention to the sources whence the sanitary authorities may derive information regarding occurrence of these diseases in their districts including notification compulsory or voluntary by parents or medical attendants, information received from school authorities, other information from Poor law authorities, registrars of deaths, district nurses visitors, and clergy Notification or information from any source would presumably lead to action directed to the benefit of the patient or the welfare of the community Nursing assistance is first considered and the leaflet states that there can be little doubt that the most economical and efficient arrangement under existing circumstances is for a borough council to contract with a district nursing association for this purpose The conditions of such a contract are then discussed While the committee considers that granted suitable training and special instruction the district nurse acting as she does under rule and supervision may safely be trusted to undertake the nursing of measles in the ordinary course she is advised in no circumstances to assume any responsibility for medical treatment A short statement of indications for the guidance of a nurse in regard to measles has been drawn up by Dr F F Caiger as follows —

Indications for Guidance of the Nurse in Reporting on Cases of Measles

The following are indications to which a nurse should have special regard in reporting on a case of measles to the medical practitioner in attendance or to the medical officer of health if there be no practitioner in attendance:—

A patient s condition may be serious owing to either—

(1) The severity of the attack itself or

(2) The development of some complication (most often bronchitis or broncho-pneumonia)

1 *Symptoms denoting severity of attack*—(a) Very high temperature 104 or more (b) Persistence of a temperature of 101° to 103° after the rash has been out for three days (c) A petechial or hæmorrhagic rash with perhaps purpuric spots on the skin (d) An ill developed rash with much prostration (e) A pulse-rate of over 120 in a child of five or 140 in a child of two or three years old

2. *Symptoms denoting some complication.*—(a) Bronchitis or broncho-pneumonia. Rapid respiration (50–60 per minute) nostrils working with inspiration frequent cough fretfulness duskiness of lips and extremities, and a temperature of 101°-103° *or higher* (*Note* —Occasionally in severe broncho-pneumonia the temperature is normal but the rapid respiration (60 or more) and dusky lips coupled with listlessness and prostration, denote the serious condition of the patient) (b) Otitis media Earache and tenderness on pressure over the ear canal with rise of temperature and the absence of any discharge after the symptoms have been present for 24 hours. Also if the temperature still keeps up after the discharge has become established. (c) Ophthalmia. Persistent intolerance of light with swelling of the lids watering of the eyes and discharge of mucoid or purulent character (d) Diarrhœa. Especially if profuse and the stools contain much mucus in spite of careful dieting

Apart from the above symptoms any attack of measles in a child under five years of age should always be regarded as serious

This statement and the list of rules to be observed when nursing cases should be of the greatest assistance to the district nurse and indirectly to the medical man at the present time These rules appeared in the July report and are as follows —

Rules to be observed when Nursing Cases of Measles German Measles, and Whooping-cough

In these diseases the infection is conveyed by the breath and by the mucous secretions and discharges from the patient s mouth and nose Great care must therefore be taken as to the disposal of everything contaminated with them.

A separate apron or linen overall must be worn when attending a case of infectious disease This should be kept at the patient s home and put on by the nurse immediately on entering the room the sleeves of her uniform when not detachable, having previously been turned up

When possible any feeding vessel, cup spoon or fork used by the patient should be kept for his own separate use If this is impracticable the article should be boiled after use by the patient

All pieces of lint rag or cotton wool used as swabs for wiping up or receiving discharges from the mouth nose eyes, or ears must either be at once burned or placed in a dressing tray or on a piece of paper until its destruction can be effected Damp swabs are preferable to dry and should be wrung out of a disinfectant solution Pocket handkerchiefs, if used at all must be boiled or steeped in a disinfectant solution *before being washed*

As far as practicable avoid bringing into close proximity to the patient any articles in your equipment not actually required

The overall after being taken off should be so folded as to avoid exposure of the inside lining and hung up in the room at some distance from the patient *The nurse should then thoroughly wash her hands* with soap and water to which some of the disinfectant has been previously added

By the conscientious observance of the foregoing details and of the principles underlying them a nurse can reduce to a minimum the risk of conveying infection to her other patients

The supply of medical comforts and food is then dealt with and finally the question of the provision of hospital treatment Whilst this would generally be a matter for the public authorities, it is suggested that there might be boroughs in which (in normal times) the most stricken of the little sufferers should be tended in houses provided by voluntary effort under the care of the district nurses

Effect of the War on District Nursing

The committee is convinced that in normal times there would have been no difficulty in obtaining funds to meet the extra cost of the measles scheme on the nursing associations undertaking it and that money could scarcely be better expended than in such a cause The state of public affairs precludes it from making any appeal at the present time beyond the publication of its report. Regarding the effect of the war on the work of the associations in general the Ranyard nurses report that since the outbreak of war roughly 20 per cent of the nurses have left the staff to take up special duties in connexion with the war In addition to this, one of the superintending sisters is matron of a base hospital in the Mediterranean All vacancies have been filled by temporary nurses and it has not been easy to bring this about The nurses have willingly taken extra duty, feeling that this was their war work at home The effect of the war has been interesting in rather unexpected ways The work has tended to increase in some cases owing to (*a*) The fact of several of the metropolitan Poor law infirmaries being closed and a large number of the infirm patients returning to the districts and becoming the patients of the nurses Others who would have gone to the infirmary remain at home to be nursed (*b*) The doctors being very pressed have been compelled to leave a great deal of work to the nurses, and several reports state that more important surgical dressings have been left to the nurses than previously On the other hand, an unexpected decrease of work has occurred in certain areas This is attributed to (*a*) The fact of many doctors who formerly used the nurses being away on war service (*b*) The better conditions under which the people are living owing to financial prosperity and abundance of work On the whole therefore, the amount of work has not differed greatly from other years, though it has varied somewhat in character

Other institutions report in the same strain The Queen Victoria s Jubilee Institute says ' The unanimous experience is that there has been no marked difference in the demand for the services of the nurses, but a diminution of ordinary acute cases is reported." The North London Nursing Association reports On the whole the work has decreased, there being less illness among the poor owing to the good conditions of employment '

The financial report of the council is a remarkable one By the aid of the voluntary work which has been available it has been possible to restrict expenditure to the bare cost

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[1] Outlines of a Scheme for the District Nursing of Measles, German Measles, and Whooping-cough in London London: P S King and Son 1915. Price 2d

HEALTH OF THE UNITED STATES ARMY IN 1914

The mean strength of the United States army white and coloured troops, in 1914 was 88 133, this being a considerable increase over the corresponding figure for 1913, which was 81 697 The ratio of admission to sick report was 665 83 per 1000, the constantly non effective rate was 24 02 per 1000 These figures compare favourably with the parallel ratios for 1913, which were 671 78 and 24 33 respectively The death rate was 4 45, and the ratio of discharge for disability (invaliding) was 12 78 per 1000, these figures being the lowest hitherto recorded The bulk of the troops (61 362) were serving within the area of the United States, for these the rate of admission to hospital was 629 84, the death rate 4 82, the proportion constantly non effective 23 37, and the ratio of discharge for disability 14 82 per 1000 In the Philippine Islands the average strength of the garrison was 10 253, the admission rate was 877 69, the death rate 3 79, the number constantly non effective 30 58 and the invaliding rate 10 62 per 1000 For the whole army the most frequent cause of death was tuberculosis, of which 41 cases were fatal the ratio being 0 47 per 1000, pneumonia caused 15 deaths (0 17 per 1000), organic heart disease 15 deaths (0 17 per 1000), and cancer 10 deaths (0 11 per 1000) (In the British army for the quinquennium 1907 to 1911, the mortality ratio for tuberculosis was 0'26, of which 0 20 were pulmonary cases, the pneumonia mortality was 0 34, and that for organic heart disease 0 12 per 1000) In regard to the prevalence of particular diseases detailed accounts are given of typhoid, venereal diseases, malarial fevers, and tuberculosis Only 7 cases of typhoid occurred among officers and enlisted men stationed within the geographical limits of the United States, and four of these were recently enlisted recruits already in the prodromal stage of the disease Two other cases were men of the hospital corps There were 4 cases of paratyphoid (confirmed by bacteriological diagnosis), and 7 other cases, clinically paratyphoid, but not established as such bacteriologically

Not a single case of typhoid has occurred in an inoculated man among all the troops scattered along the Mexican border and in Texas since 1912 The use of this form of prophylaxis was begun in the army in 1909 as a voluntary measure, in 1911 it was made compulsory, and now re immunisations are carried out on enlistment in the same way as revaccination against small pox In 1912 the admission ratio for typhoid was 0 31 per 1000, in 1913 it was only 0 04, and in 1914, 0 07 Special measures for protection against venereal diseases were begun five years ago In 1912 the admission ratio for these affections was 115 7 in 1913 it fell to 85 8 a slight increase, to 89 8 per 1000 occurred in 1914 In some stations it appeared that a considerable time elapsed between exposure to infection and the use of the prophylactic treatment that is officially ordered to be carried out The report states that —

> The matter appears to be principally a question of discipline and it may be now stated that venereal disease in a command is an index of the discipline of that command
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> The idea must permeate the military body that venereal disease is avoidable, a serious menace to health a mark of inefficiency and a slur upon soldierly conduct.
>
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Scheme for the Nursing of Measles and Whooping cough

The object of this scheme is to secure the provision of timely nursing care—in proper relation to medical advice—with a view to saving the lives and preventing permanent injury to the health of young children attacked by measles or whooping cough It is generally agreed that if due care were taken from the onset, the mortality of measles and its complications would be greatly reduced It is important therefore that such care should be secured with the least possible delay It often occurs that medical aid is only summoned after the illness has developed a serious character or complications have arisen which might have been avoided by proper care and attention It is hoped that on the advice of an experienced nurse such timely aid will be brought to the patient and not be deferred until it is too late

The leaflet then goes on to call attention to the sources whence the sanitary authorities may derive information regarding occurrence of these diseases in their districts, including notification compulsory or voluntary by parents or medical attendants, information received from school authorities, other information from Poor law authorities, registrars of deaths district nurses visitors and clergy Notification or information from any source would presumably lead to action directed to the benefit of the patient or the welfare of the community Nursing assistance is first considered, and the leaflet states that there can be little doubt that the most economical and efficient arrangement under existing circumstances is for a borough council to contract with a district nursing association for this purpose. The conditions of such a contract are then discussed While the committee considers that granted suitable training and special instruction the district nurse, acting as she does under rule and supervision, may safely be trusted to undertake the nursing of measles in the ordinary course she is advised in no circumstances to assume any responsibility for medical treatment. A short statement of indications for the guidance of a nurse in regard to measles has been drawn up by Dr F F Caiger as follows —

Indications for Guidance of the Nurse in Reporting on Cases of Measles

The following are indications to which a nurse should have special regard in reporting on a case of measles to the medical practitioner in attendance or to the medical officer of health if there be no practitioner in attendance —

A patient's condition may be serious owing to either—

(1) The severity of the attack itself or

(2) The development of some complication (most often bronchitis or broncho-pneumonia).

1. *Symptoms denoting severity of attack*—(a) Very high temperature 104° or more (b) Persistence of a temperature of 101° to 103° after the rash has been out for three days (c) A petechial or hæmorrhagic rash with perhaps purpuric spots on the skin (d) An ill developed rash with much prostration (e) A pulse-rate of over 120 in a child of five or 140 in a child of two or three years old

2. *Symptoms denoting some complication*.—(a) Bronchitis or broncho-pneumonia. Rapid respiration (50–60 per minute) nostrils working with inspiration frequent cough, fretfulness duskiness of lips and extremities, and a temperature of 101°–103° or higher (Note.—Occasionally in severe broncho-pneumonia the temperature is normal, but the rapid respiration (60 or more) and dusky lips coupled with listlessness and prostration, denote the serious condition of the patient) (b) Otitis media. Earache and tenderness on pressure over the ear canal with rise of temperature and the absence of any discharge after the symptoms have been present for 24 hours. Also if the temperature still keeps up after the discharge has become established. (c) Ophthalmia. Persistent intolerance of light, with swelling of the lids, watering of the eyes, and discharge of mucoid or purulent character (d) Diarrhœa. Especially if profuse, and the stools contain much mucus in spite of careful dieting

Apart from the above symptoms, any attack of measles in a child under five years of age should always be regarded as serious.

This statement and the list of rules to be observed when nursing cases should be of the greatest assistance to the district nurse and indirectly to the medical man at the present time These rules appeared in the July report and are as follows —

Rules to be observed when Nursing Cases of Measles German Measles, and Whooping-cough

In these diseases the infection is conveyed by the breath and by the mucous secretions and discharges from the patient's mouth and nose Great care must therefore be taken as to the disposal of everything contaminated with them.

A separate apron or linen overall must be worn when attending a case of infectious disease This should be kept at the patient's home and put on by the nurse immediately on entering the room the sleeves of her uniform when not detachable having previously been turned up

When possible any feeding vessel cup spoon or fork used by the patient should be kept for his own separate use If this is impracticable, the article should be boiled after use by the patient.

All pieces of lint, rag or cotton wool used as swabs for wiping up or receiving discharges from the mouth nose eyes or ears must either be at once burned or placed in a dressing tray or on a piece of paper until its destruction can be effected. Damp swabs are preferable to dry and should be wrung out of a disinfectant solution Pocket handkerchiefs, if used at all must be boiled or steeped in a disinfectant solution before being washed

As far as practicable avoid bringing into close proximity to the patient any articles in your equipment not actually required.

The overall after being taken off should be so folded as to avoid exposure of the inside lining and hung up in the room at some distance from the patient The nurse should then thoroughly wash her hands with soap and water to which some of the disinfectant has been previously added

By the conscientious observance of the foregoing details, and of the principles underlying them, a nurse can reduce to a minimum the risk of conveying infection to her other patients

The supply of medical comforts and food is then dealt with and finally the question of the provision of hospital treatment Whilst this would generally be a matter for the public authorities it is suggested that there might be boroughs in which (in normal times) the most stricken of the little sufferers should be tended in houses provided by voluntary effort under the care of the district nurses

Effect of the War on District Nursing

The committee is convinced that in normal times there would have been no difficulty in obtaining funds to meet the extra cost of the measles scheme on the nursing associations undertaking it and that money could scarcely be better expended than in such a cause. The state of public affairs precludes it from making any appeal at the present time beyond the publication of its report. Regarding the effect of the war on the work of the associations in general the Ranyard nurses report that since the outbreak of war roughly 20 per cent of the nurses have left the staff to take up special duties in connexion with the war In addition to this one of the superintending sisters is matron of a base hospital in the Mediterranean. All vacancies have been filled by temporary nurses, and it has not been easy to bring this about The nurses have willingly taken extra duty, feeling that this was their war work at home The effect of the war has been interesting in rather unexpected ways The work has tended to increase in some cases owing to (a) The fact of several of the metropolitan Poor law infirmaries being closed, and a large number of the infirm patients returning to the districts and becoming the patients of the nurses Others who would have gone to the infirmary remain at home to be nursed (b) The doctors being very pressed have been compelled to leave a great deal of work to the nurses, and several reports state that more important surgical dressings have been left to the nurses than previously On the other hand, an unexpected decrease of work has occurred in certain areas This is attributed to (a) The fact of many doctors who formerly used the nurses being away on war service (b) The better conditions under which the people are living owing to financial prosperity and abundance of work. On the whole therefore, the amount of work has not differed greatly from other years, though it has varied somewhat in character.

Other institutions report in the same strain. The Queen Victoria's Jubilee Institute says "The unanimous experience is that there has been no marked difference in the demand for the services of the nurses, but a diminution of ordinary acute cases is reported." The North London Nursing Association reports 'On the whole the work has decreased, there being less illness among the poor owing to the good conditions of employment "

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Not a single case of typhoid has occurred in an inoculated man among all the troops scattered along the Mexican border and in Texas since 1912 The use of this form of prophylaxis was begun in the army in 1909 as a voluntary measure, in 1911 it was made compulsory, and now re immunisations are carried out on enlistment in the same way as revaccination against small pox In 1912 the admission ratio for typhoid was 0 31 per 1000, in 1913 it was only 0 04, and in 1914, 0 07 Special measures for protection against venereal diseases were begun five years ago In 1912 the admission ratio for these affections was 115 7 in 1913 it fell to 85 8 a slight increase, to 89 8 per 1000 occurred in 1914 In some stations it appeared that a considerable time elapsed between exposure to infection and the use of the prophylactic treatment that is *officially ordered to be carried out* The report states that —

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Scheme for the Nursing of Measles and Whooping cough

The object of this scheme is to secure the provision of timely nursing care—in proper relation to medical advice—with a view to saving the lives and preventing permanent injury to the health of young children attacked by measles or whooping cough. It is generally agreed that if due care were taken from the onset the mortality of measles and its complications would be greatly reduced It is important therefore that such care should be secured with the least possible delay It often occurs that medical aid is only summoned after the illness has developed a serious character or complications have arisen which might have been avoided by proper care and attention It is hoped that on the advice of an experienced nurse, such timely aid will be brought to the patient and not be deferred until it is too late

The leaflet then goes on to call attention to the sources whence the sanitary authorities may derive information regarding occurrence of these diseases in their districts, including notification compulsory or voluntary by parents or medical attendants, information received from school authorities, other information from Poor law authorities, registrars of deaths district nurses visitors, and clergy Notification or information from any source would presumably lead to action directed to the benefit of the patient or the welfare of the community Nursing assistance is first considered, and the leaflet states that there can be little doubt that the most economical and efficient arrangement under existing circumstances is for a borough council to contract with a district nursing association for this purpose The conditions of such a contract are then discussed While the committee considers that granted suitable training and special instruction the district nurse acting as she does under rule and supervision may safely be trusted to undertake the nursing of measles in the ordinary course she is advised in no circumstances to assume any responsibility for medical treatment A short statement of indications for the guidance of a nurse in regard to measles has been drawn up by Dr F F Caiger as follows —

Indications for Guidance of the Nurse in Reporting on Cases of Measles

The following are indications to which a nurse should have special regard in reporting on a case of measles to the medical practitioner in attendance or to the medical officer of health if there be no practitioner in attendance:—

A patient's condition may be serious owing to either—

(1) The severity of the attack itself or

(2) The development of some complication (most often bronchitis or broncho-pneumonia).

1. *Symptoms denoting severity of attack* —(a) Very high temperature 105° or more (b) Persistence of a temperature of 101° to 103° after the rash has been out for three days. (c) A petechial or hæmorrhagic rash with perhaps purpuric spots on the skin (d) An ill developed rash with much prostration. (e) A pulse-rate of over 120 in a child of five, or 140 in a child of two or three years old.

2. *Symptoms denoting some complication.*—(a) Bronchitis or broncho-pneumonia. Rapid respiration (30-60 per minute) nostrils working with inspiration frequent cough, fretfulness, duskiness of lips and extremities, and a temperature of 101°-103° or higher (Note.—Occasionally in severe broncho-pneumonia the temperature is normal, but the rapid respiration (60 or more) and dusky lips coupled with listlessness and prostration, denote the serious condition of the patient) (b) Otitis media. Earache and tenderness on pressure over the ear canal, with rise of temperature and the absence of any discharge after the symptoms have been present for 24 hours. Also, if the temperature still keeps up after the discharge has become established. (c) Ophthalmia. Persistent intolerance of light, with swelling of the lids watering of the eyes, and discharge of mucoid or purulent character (d) Diarrhœa. Especially if profuse, and the stools contain much mucus in spite of careful dieting

Apart from the above symptoms, any attack of measles in a child under five years of age should always be regarded as serious.

This statement and the list of rules to be observed when nursing cases should be of the greatest assistance to the district nurse and indirectly to the medical man at the present time. These rules appeared in the July report and are as follows —

Rules to be observed when Nursing Cases of Measles German Measles, and Whooping-cough

In these diseases the infection is conveyed by the breath and by the mucous secretions and discharges from the patient's mouth and nose Great care must therefore be taken as to the disposal of everything contaminated with them.

A separate apron or linen overall must be worn when attending a case of infectious disease This should be kept at the patient's home, and put on by the nurse immediately on entering the room the sleeves of her uniform, when not detachable having previously been turned up

When possible any feeding vessel, cup spoon, or fork used by the patient should be kept for his own separate use If this is impracticable the article should be boiled after use by the patient.

All pieces of lint, rag or cotton wool used as swabs for wiping up or receiving discharges from the mouth, nose eyes or ears must either be at once burned or placed in a dressing tray or on a piece of paper until its destruction can be effected Damp swabs are preferable to dry and should be wrung out of a disinfectant solution Pocket handkerchiefs, if used at all must be boiled or steeped in a disinfectant solution before being washed.

As far as practicable avoid bringing into close proximity to the patient any articles in your equipment not actually required.

The overall after being taken off should be so folded as to avoid exposure of the inside lining and hung up in the room at some distance from the patient The nurse should then thoroughly wash her hands with soap and water to which some of the disinfectant has been previously added.

By the conscientious observance of the foregoing details, and of the principles underlying them a nurse can reduce to a minimum the risk of conveying infection to her other patients

The supply of medical comforts and food is then dealt with and finally the question of the provision of hospital treatment Whilst this would generally be a matter for the public authorities it is suggested that there might be boroughs in which (in normal times) the most stricken of the little sufferers should be tended in houses provided by voluntary effort under the care of the district nurses

Effect of the War on District Nursing

The committee is convinced that in normal times there would have been no difficulty in obtaining funds to meet the extra cost of the measles scheme on the nursing associations undertaking it, and that money could scarcely be better expended than in such a cause. The state of public affairs precludes it from making any appeal at the present time beyond the publication of its report. Regarding the effect of the war on the work of the associations in general the Ranyard nurses report that since the outbreak of war roughly 20 per cent of the nurses have left the staff to take up special duties in connexion with the war In addition to this one of the superintending sisters is matron of a base hospital in the Mediterranean. All vacancies have been filled by temporary nurses, and it has not been easy to bring this about The nurses have willingly taken extra duty feeling that this was their war work at home The effect of the war has been interesting in rather unexpected ways The work has tended to increase in some cases owing to (*a*) The fact of several of the metropolitan Poor law infirmaries being closed, and a large number of the infirm patients returning to the districts and becoming the patients of the nurses Others who would have gone to the infirmary remain at home to be nursed (*b*) The doctors being very pressed have been compelled to leave a great deal of work to the nurses, and several reports state that more important surgical dressings have been left to the nurses than previously On the other hand an unexpected decrease of work has occurred in certain areas This is attributed to (*a*) The fact of many doctors who formerly used the nurses being away on war service (*b*) The better conditions under which the people are living owing to financial prosperity and abundance of work. On the whole therefore the amount of work has not differed greatly from other years, though it has varied somewhat in character.

Other institutions report in the same strain. The Queen Victoria's Jubilee Institute says "The unanimous experience is that there has been no marked difference in the demand for the services of the nurses, but a diminution of ordinary acute cases is reported." The North London Nursing Association reports 'On the whole the work has decreased, there being less illness among the poor owing to the good conditions of employment "

The financial report of the council is a remarkable one. By the aid of the voluntary work which has been available it has been possible to restrict expenditure to the bare cost of printing and this item, amounting to £26 and a cheque book 8s 4d, are the sole entries on the expenditure side of the account except the distribution of £1000 from the London Parochial Charities among the various nursing associations The expense of printing a directory of district nursing in London for the help of medical practitioners hospital authorities, and public officials is also contemplated

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[1] Outlines of a Scheme for the District Nursing of Measles, German Measles, and Whooping-cough in London London: P S King and Son. 1916. Price 2d

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE undermentioned Staff Surgeons have been promoted to the rank of Fleet-Surgeon —R W G Stewart, W P Walker, J G Wallis, H R H Denny, J R Muir, J O'Hea, J St J Murphy, A. J Hewitt, L S Whitwam, G M Eastment, W P Dyer, T H Vickers and R R Horley

Temporary Surgeons —C Banes, O H. Gotch, and P C Wollatt have been appointed to the *Victory*, additional, for Haslar Hospital

ARMY MEDICAL SERVICE

Surgeon General J G MacNeece and Colonel Sinclair Westcott, C B, C M G, are retained on the Active List and to be supernumerary

ROYAL ARMY MEDICAL CORPS

The undermentioned Majors (temporary Lieutenant-Colonels) relinquish their temporary rank on re posting —C R L Ronayne, F P Lauder, and Surgeon Major W S Henderson, King Edward's Horse (The King's Oversea Dominions Regiment)

Lieutenant-Colonel T B Winter is retained on the Active List, and to be supernumerary

Major C H Straton to be temporary Lieutenant-Colonel whilst an Assistant Director of Medical Services at head quarters of an Army

The undermentioned Majors to be temporary Lieutenant-Colonels whilst in command of Field Ambulances —P A Lloyd-Jones, D S O, W G Maydon, A M Rose, W C Nimmo, A. S Arthur, T S Dudding, R C Hallowes, and F C Sampson, D S O

Major D S MacKay, C A M C, from 27th Canadian Infantry Battalion, and A W May and T H MacDonald, C A M C, to be temporary Majors

The undermentioned Captains to be temporary Majors while in command of Field Ambulances —W K. Beaman and H. M J Perry

The undermentioned temporary Lieutenants to be temporary Captains —J R McGilvray, K. D C Macrae, J H V Scott, E S Hawthorne, S Rowland, J A. Montgomery, R M Boyd, F P Fisher, H B Atlee G H Steven, W N Rishworth T R Trounce, J A. G Burton, J W Bingham F J Henry, N Duggan, A H Jacob, H. B Smith, T P Herriot, F E Sprawson C G G Keane, A. Leach, F P Evers, A L Taylor, W Campbell, L U Geraty, G Leggat, C R Dudgeon, F H Woods, L McI Weeks, J Macintyre, H E A. Boldero, C S L Roberts, H A. Gillespie, H C Duffy, L R Broster, J P Fitzpatrick, E S Marshall, J I P Wilson, H G Frean, F A. Mills, W T Collier, J T Smeall, J J Dunne, H A. Rowell, I. S James, E B Gunson, R D Fitzgerald, A S Fry, H D Duke J H Wrightson, H J Milligan, W R G Hamilton, D C Alexander, H Ackroyd, S G Tippett, A R Chavasse, G W Davis, G Muir D A. D Kennedy, W H. Butler, J P Walker, M M Townsend, and G D Shann

The undermentioned to be temporary Captains —R H J Swan, J S Ross, and R H Thomas C A.M C

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants —G C Berg, C H O Byrne, G Cranstoun, H Gardiner Hill and P Hudson

The undermentioned to be temporary Lieutenants —H M Wilson, R H Bridge, F M Davies, J L Cochrane, R C Harkness J A. Matson, J E Mullan, G Jackson, J A. Fretton, E W N Hobhouse, J G Slade, G P Sheehan, J W E Cole, D J O'Brien, E M Balthasar, W W Halsted, G E Anderson, H R Davies, H N Rankin, G R E Colquhoun, T F Moran, W S McGowan, J P Douglas, D H Foley L F West F J MacManus T W Ruttledge, P G Leeman F H McCaughey, C H Seville C H. G Philp, R N Hartley, G F C Healy, W G Jones, J K Garner H V A Gatchell, H G Carlisle H T Finlayson J Williamson, S Potter, G Macdonald E W G Young, T T O'Callaghan J S Crawford, J W Littlejohn, C E Sharp, E Slack H Bouchier Hayes, J M O'Reilly, H McW Daniel, A P Hart, D M Hunt, J Penman, A N W Colahan, H. Stobie W O Roberts, G S Robinson, R Nichol, J E Cable J E S Sheppard-Jones, G Heathcote, E H Wood, H P Caithness, A S Burgess W A Muir, G C Robinson J Colgan A. G East A H B Kirkman, W J Macdonald, M W Loy, J Dunlop, C S Read, C R Wright, W H Hart, and D S Steele-Perkins

The undermentioned are granted temporary honorary rank whilst serving with the Scottish Red Cross Society —Captains C McNeil and D Cotterill Lieutenants H T Thomson and D H D Cran

The undermentioned to be temporary Honorary Lieutenants T B Johnston, V C James, R H Fleming, H A. Whyte Venables, P A. Dargan, L W Jones, and A. W Holmes, C A.M C

The undermentioned temporary Lieutenants relinquish their commissions —C Birch, F S Scott, L T Eden W C G Ashdowne E B C Mayrs, B Barnett, A. Jamieson, T B McKee, T H Brown, W E Dean, and P O'C White

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

Temporary Lieutenant I F Mackenzie, from the R A.M C, to be Lieutenant

TERRITORIAL FORCE

Army Medical Services

Lieutenant-Colonel J Young South Midland Field Ambulance, to be Assistant Director of Medical Services South Midland Division, with the temporary rank of Colonel, vice Colonel W H Bull

Major W F McAllister Hewlings from Attached to Units other than Medical Units, to be Deputy Assistant Director of Medical Services, North Midland Division

Royal Army Medical Corps

South Western Mounted Brigade Field Ambulance Lieutenants to be Captains H R Dive and C D Relton.

East Anglian Field Ambulance Lieutenant A Greene to be Captain Lieutenant W K Legassick is seconded for duty with the Queen's Own (Royal West Kent Regiment)

Lowland Field Ambulance Captain R B Barnetson relinquishes his commission

Western General Hospital Lieutenant J Lloyd to be Captain

Southern General Hospital Captain G S Earl relinquishes his commission on account of ill health

London (City of London) Sanitary Company W C Lyons to be Lieutenant

South Midland Field Ambulance Lieutenant-Colonel J Young is seconded whilst holding an appointment as Assistant Director of Medical Services

Scottish General Hospital Lieutenant J W Simpson to be Captain

Wessex Divisional Sanitary Section Lieutenant A E Bonham to be Captain

South Wales Mounted Brigade Field Ambulance Lieutenant N T K Jordan to be Captain

London (City of London) Field Ambulance Captain H K Griffith from Attached to Units other than Medical Units, to be Captain

Attached to Units other than Medical Units —Lieutenants to be Captains H L Gauntlett, F R Fletcher, and H W Godfrey

DEATHS IN THE SERVICES

Deputy Surgeon General Eugene Francis O'Leary, A.M S, at Audley, Sidmouth, on Feb 20th, in his eighty first year He entered the army in 1856 and served in India and China and in the Egyptian campaign of 1882 (medal and the Khedive's Star) He retired in 1883

Surgeon General Charles Edwin McVittie I M S (retired), H P K., at Exmouth recently He served in the Afghan War in 1880 (medal) and with the Burmese Expedition in 1886-87 (mentioned in despatches and medal with two clasps) He reached the rank of surgeon general in 1895 and retired in 1900, receiving a distinguished service reward four years later

PROMOTIONS IN THE INDIAN ARMY

Officers of the Indian Medical Service have recently had some reason for complaint owing to supersession by their juniors on account of the greater rapidity of promotion in the British army This has now been remedied by recent measures sanctioned by the Secretary of State for India granting temporary promotions irrespective of the occurrence of vacancies in the next higher rank

BELFAST HEALTH SOCIETY —Sir John Byers, speaking at the recent annual meeting of the Belfast Health Society alluded to the good work done in the babies clubs in which there had been 924 new entries during 1915 To get rid of prematurity means must be taken he said to raise the health of the mothers by such agencies as rest good food, and quiet surroundings Many healthy children born at full term perished from want of knowledge or indifference on the part of the parents Instruction must be given that no other method of bringing up a child was to be compared to breast-feeding Valuable help he said, was being given by the sale of infants' outfits at cost price

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census 7047 births and 5449 deaths were registered during the week ended Saturday, Feb 26th The annual rate of mortality in these towns which had increased from 14 0 to 16 3 per 1000 in the four preceding weeks, fell in the week under notice to 15 7 per 1000 of their aggregate population, estimated at 18,136,180 persons at the middle of the year 1914 During the first eight weeks of the current quarter the mean annual death rate in these towns averaged 14 8, against a corresponding rate of 14 0 per 1000 in London The death rate last week ranged from 6 6 in Ealing, 6 9 in Swindon, 7 0 in Walthamstow, 7 2 in Gloucester, and 7 5 in East Ham, to 22 4 in York, 22·5 in Ipswich, 23 1 in Dewsbury, 23 8 in Liverpool, and 24 5 in Grimsby

The 5449 deaths from all causes were 236 below the number recorded in the previous week, and included 351 which were referred to the principal epidemic diseases, against numbers increasing from 305 to 377 in the five preceding weeks Of these 351 deaths, 116 resulted from whooping-cough, 98 from measles, 57 from infantile diarrhœal diseases, 56 from diphtheria 14 from scarlet fever, 9 from enteric fever, and 1 from small pox The annual death rate from these diseases was equal to 1·0, against 1 1 *per* 1000 in the previous week. The deaths attributed to whooping cough, which had steadily increased from 74 to 133 in the five preceding weeks, fell to 116 and included 28 in London, 13 in Liverpool, 7 each in Birmingham and Manchester, 6 in Sheffield, and 5 in Coventry The deaths referred to measles, which had been 62, 63, and 78 in the three preceding weeks further rose to 98, and caused the highest annual death rates of 1 6 in Leeds, 1 7 in Darlington and in Rochdale, 2·0 in Leicester, 2 5 in Stockport, and 2 7 in Grimsby The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 70, 64, and 73 in the three preceding weeks fell to 57, of which 12 were recorded in London, 7 in Liverpool and 3 each in Birmingham and Bristol The fatal cases of *diphtheria*, which had been 63, 71, and 61 in the three preceding weeks, further fell to 56, 11 deaths were registered in London, 6 in Stoke-on Trent, and 3 each in Coventry and Liverpool The deaths attributed to scarlet fever, which had been 28, 18, and 25 in the three preceding weeks fell to 14, and included 5 in London and 3 in Leeds The 9 fatal cases of enteric fever, of which 2 occurred in Newcastle-on Tyne, were equal to the average in the earlier weeks of the quarter The death from small pox occurred in Cardiff

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had declined from 2257 to 2059 in the five preceding weeks, further fell to 1989 on Saturday *last*, 194 new cases were admitted during the week, against 253, 196, and 215 in the three *preceding* weeks These hospitals also contained on Saturday last 1553 cases of diphtheria, 196 of whooping-cough, 69 of measles and 51 of enteric fever, but not one of small pox The 1263 deaths from all causes in London were 55 fewer than the number in the previous week, and corresponded to an annual death rate of 14 6 per 1000 The deaths referred to diseases of the respiratory system, which had been 224, 225, and 282 in the three preceding weeks, rose to 284 in the week under notice but were 192 below *the* number registered in the corresponding week of last year

Of the 5449 deaths *from all* causes in the 96 towns, 175 resulted from violence and 404 were the subject of coroners' inquests while 1525 occurred in public institutions The causes of 62 or 1 1 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Sheffield, Leeds West Ham, Bradford, Newcastle-on Tyne, and in 67 other *smaller* towns Of the 62 uncertified causes, 16 were registered in Birmingham 15 in Liverpool, 4 in Manchester, 3 in Stoke-on Trent and 2 each in St Helens Preston, Sunderland, and South Shields

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2,355 300 persons at the middle of this year, 1054 births and 732 deaths were registered during the week ended Saturday Feb 26th The annual rate of mortality in these towns, which had been 13·4 16 3, and 15 5 per 1000 in the three preceding weeks rose to 16 2 per 1000 in the week under notice During the first eight weeks of the current quarter the mean annual death rate in these towns averaged 15 2, against a *corresponding* rate of 14 8 per 1000 in the large English towns The death rate last week ranged from 9 8 in Kilmarnock 12 4 in Ayr and 12 7 in Kirkcaldy to 21 1 in Dundee, 24·4 in Perth, and 32 9 in Greenock

The 732 deaths from all causes were 32 in excess of the number in the previous week, and included 63 which were referred to the principal epidemic diseases, against 71 and 69 in the two preceding weeks Of these 63 deaths 28 resulted from measles, 15 from scarlet fever, 8 each from diphtheria and infantile diarrhœal diseases, and 2 each from enteric fever and whooping cough, but not one from *small* pox. The annual *death* rate *from* these diseases was equal to 1 4, compared with 1 0 per 1000 in the large English towns The deaths attributed to measles, which had been 22, 32, and 34 in the three preceding weeks, fell to 28, and included 11 in Glasgow, 7 in Coatbridge, 5 in Greenock, and 3 in Paisley *The deaths referred to scarlet* fever, which had been 7, 11, and 11 in the three preceding weeks, further rose to 15, of which 9 belonged to Glasgow and 2 each to Edinburgh and Motherwell The fatal cases of diphtheria, which had been 14, 18, and 15 in the three preceding weeks, fell to 8, and included 2 each in Edinburgh and Aberdeen The deaths of infants (under 2 years) from *diarrhœa* and *enteritis*, which had been 6, 3, and 6 in the three preceding weeks, rose to 8, of which 3 were registered in Glasgow and 2 in Edinburgh The 2 fatal cases of whooping-cough were recorded in Glasgow, and those from enteric fever in Glasgow and Clydebank

The deaths *referred to* diseases *of the respiratory* system, which had been 73, 96, and 88 in the three preceding weeks rose to 126 in the week under notice, but were 109 below the number registered in the corresponding week of last year The deaths from violence numbered 30, against 34 and 35 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 19 town districts *of* Ireland, *with populations* exceeding 10,000 persons at the last Census, 525 births and 414 deaths were registered during the week ended Saturday, Feb 19th The annual rate of mortality in these towns, which had been 17 6, 19 0, and 20 2 per 1000 in the three preceding weeks fell in the week under notice to 18 8 per 1000 of their aggregate population estimated at 1,148 468 persons at the middle of last year During the first seven weeks of the current quarter the mean annual death rate in these towns averaged 18 8, against corresponding rates of 14 7 and 15 1 per 1000 in the English and Scotch towns respectively The death rate during the week was equal to 18 2 in Dublin (against 15 2 in London and 15 8 in Glasgow), 18 1 in Belfast, 23 1 in Cork, 26 6 in Londonderry, 21 7 in Limerick, and 11 4 in Waterford, while in the 13 smaller towns the mean rate was 18 4 per 1000

The 414 deaths from all causes were 30 fewer than the number in the previous week, and included 30 which were referred to the principal epidemic diseases against 30 and 34 in the two preceding weeks Of these 30 deaths, 11 resulted from whooping-cough, 9 from measles, 5 from *infantile diarrhœal* diseases 2 each from enteric fever and scarlet fever and 1 from diphtheria, but not one from *small pox*. The annual death rate from these diseases was equal to 1 4, against corresponding rates *of* 1 1 and 1 5 per 1000 in the English and Scotch towns respectively The deaths attributed to whooping-cough, which had been 7, 11, and 12 in the three preceding weeks numbered 11 during the week and included 3 each in Dublin and Belfast, and 2 in Ballymena The deaths referred to measles, which had been 6, 5, and 10 in the three preceding weeks, were 9, and comprised 4 each in Dublin and Belfast, and 1 in Newry The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 8, 8, and 4 in the three preceding weeks were 5, and included 2 each in Dublin and Waterford *The 2 deaths* from enteric fever were registered in Belfast and those from scarlet fever in Belfast and Cork, and the fatal case of diphtheria in Belfast

The deaths referred to diseases of the *respiratory* system, which had been 63, 76 and 83 in the three preceding weeks, fell to 68 in the week under *notice*, and were 97 below the number registered in the corresponding week of last *year* Of the 414 *deaths from* all causes 137, or 33 per *cent*, occurred in public institutions and 7 resulted from *violence*. The causes of 22 or 5 3 per cent, of the total deaths were not certified either by a registered medical practitioner or by a *coroner* after inquest, and included 6 in Dublin and 3 each in Belfast Cork, Londonderry, *and* Limerick, in the large English towns the proportion *of* uncertified causes did not exceed 1 1 per cent

VITAL STATISTICS OF LONDON DURING JANUARY, 1916

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs With regard to the notified cases *of infectious* diseases, it appears that the number of persons reported to be suffering from one or other of the 10 *diseases* specified in the table was equal to an annual rate *of* 6 5 per 1000 of the population, estimated at 4,516,612 *persons*, in the three preceding months the rates were 9 6, 7 8 and 6 3 per 1000 respectively The lowest rates were recorded in Kensington, Chelsea,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1916

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS	Estimated population in the middle of 1914	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes	Death rate per 1000 living †
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever	Enteric fever	Other continued fevers	Puerperal fever	Erysipelas	Cerebro-spinal meningitis.	Poliomyelitis	Total.	Annual rate per 1000 persons living	Small pox.	Measles	Scarlet fever	Diphtheria.*	Whooping cough	Enteric fever.	Diarrhoea and enteritis (under 2 years)	Total.	Annual rate per 1000 persons living		
LONDON	4 516,612	—	1032	830	—	37	—	23	281	35	7	2244	6 5	—	38	20	71	62	7	66	264	0 8	4676	13 6
West Districts																								
Paddington	142 056	—	31	17	—	1	—	1	16	3	—	69	6 3	—	1	1	—	2	1	3	8	0 7	134	12 2
Kensington	170,817	—	28	16	—	2	—	—	5	2	—	53	4 0	—	—	—	2	—	1	3	6	0·5	146	11 1
Hammersmith	124 760	—	29	15	—	—	—	—	8	—	—	52	5 4	—	1	1	1	1	—	5	9	0 9	124	12 8
Fulham	158 849	—	39	32	—	1	—	2	6	—	—	80	6 6	—	—	3	2	1	—	1	7	0 6	155	13 1
Chelsea	63,791	—	6	9	—	—	—	—	4	—	—	19	3 9	—	—	—	1	3	—	1	5	1 0	60	11 7
City of Westminster	152,348	—	26	11	—	—	—	—	7	1	—	45	3 9	—	—	—	—	—	—	2	2	0·2	140	12 6
North Districts																								
St. Marylebone	112,692	—	11	10	—	2	—	—	5	2	—	30	3 5	—	—	—	—	2	—	3	5	0 6	113	13 4
Hampstead	86 731	—	18	7	—	1	—	—	5	—	—	31	4 7	—	—	—	—	—	—	1	1	0 2	70	11 1
St Pancras	212 497	—	64	42	—	—	—	2	7	1	—	116	7 1	—	—	1	2	5	—	—	8	0 5	224	13 7
Islington	324 764	—	68	57	—	3	—	3	12	2	1	146	5 9	—	4	2	5	4	—	2	17	0 7	398	15 6
Stoke Newington	50,464	—	10	12	—	—	—	—	4	—	—	26	6 7	—	—	—	1	—	—	—	1	0 3	46	11 3
Hackney	223 724	—	57	29	—	2	—	—	8	4	—	100	5 8	—	1	1	4	2	—	2	10	0 6	228	13 4
Central Districts																								
Holborn	45 881	—	18	6	—	—	—	—	2	—	2	28	8·0	—	—	1	—	—	—	—	1	0 3	46	13 1
Finsbury	83 212	—	31	10	—	2	—	—	6	2	—	51	8 0	—	14	—	1	1	—	—	16	2 5	98	16 2
City of London	17,129	—	2	3	—	—	—	—	1	—	—	6	4·6	—	—	—	—	—	—	—	—	—	13	10 3
East Districts																								
Shoreditch	103 869	—	30	27	—	2	—	—	10	—	1	70	8 4	—	2	1	4	3	—	7	17	2 0	161	19 9
Bethnal Green	127 662	—	47	30	—	1	—	2	12	3	—	95	9 7	—	—	—	4	2	—	6	12	1 2	160	16 9
Stepney	273 285	—	67	95	—	3	—	—	27	5	—	197	9 4	—	4	1	9	10	—	10	34	1·6	285	14 2
Poplar	160 222	—	32	28	—	4	—	—	20	1	1	86	7 0	—	—	1	—	6	1	2	10	0 8	190	15 3
South Districts																								
Southwark	186 941	—	22	38	—	—	—	3	18	—	—	81	5 6	—	4	—	7	4	—	1	16	1 1	228	16 0
Bermondsey	124 213	—	20	40	—	1	—	—	17	1	—	79	8 3	—	1	2	2	2	—	—	7	0 7	153	16 1
Lambeth	298,724	—	41	34	—	3	—	4	8	—	—	90	4 0	—	—	1	6	2	—	7	16	0 7	300	12 9
Battersea	167 338	—	70	50	—	1	—	1	11	3	—	136	10 6	—	1	—	6	—	—	1	8	0·6	197	15 4
Wandsworth	333 993	—	87	80	—	4	—	2	12	3	2	190	7 3	—	2	—	8	3	1	2	16	0 6	288	11 1
Camberwell	262 020	—	56	39	—	1	—	—	21	1	—	118	5 9	—	1	3	2	—	—	1	7	0 3	231	11 4
Deptford	109,182	—	39	20	—	—	—	1	10	—	—	70	8 4	—	2	1	—	—	—	2	5	0·6	110	12 9
Greenwich	96 037	—	25	19	—	1	—	—	5	1	—	51	6 9	—	—	—	2	—	2	1	5	0 7	104	13·9
Lewisham	172,433	—	31	22	—	1	—	—	4	—	—	58	4 4	—	—	—	1	6	1	2	10	0·8	145	10 8
Woolwich	123,836	—	27	32	—	1	—	1	10	—	—	71	7 5	—	—	—	1	3	—	1	5	0 6	128	13 9
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup † The death-rates are corrected for variations in sex and age constitution of the populations of the several boroughs the population of England and Wales being taken as the standard.

the City of Westminster St Marylebone and Lambeth, and the highest rates in Shoreditch Bethnal Green, Stepney Battersea and Deptford The prevalence of scarlet fever showed a slight decline from that recorded in the preceding months, among the several metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Holborn, Finsbury, Bethnal Green Battersea, and Deptford. The Metropolitan Asylums Hospitals contained 2157 scarlet fever patients at the end of the month, against 3072 2896 and 2431 at the end of the three preceding months the weekly admissions averaged 249, against 434, 329, and 248 in the three preceding months. Diphtheria was rather more prevalent than it had been during December, the greatest proportional prevalence of this disease in January was recorded in Shoreditch Bethnal Green, Stepney, Bermondsey, Battersea, Wandsworth, and Woolwich The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1620 1551 and 1476 at the end of the three preceding months, had risen again to 1492 at the end of the month the weekly admissions averaged 198, against 241, 195, and 177 in the three preceding months Enteric fever was less prevalent than in any other recent month, of the 37 cases notified during January, 4 belonged to Poplar, 4 to Wandsworth, and 3 each to Islington Stepney, and Lambeth There were 44 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of the month, against 49 57, and 50 at the end of the three preceding months, the weekly admissions averaged 7 against 7 in each of the two preceding months. Erysipelas was proportionally most prevalent in Paddington, Shoreditch Bethnal Green Stepney Poplar, Bermondsey, and Deptford The 22 cases of puerperal fever notified during the month included 4 in Lambeth 3 in Islington, 3 in Southwark, 2 in Fulham, 2 in St Pancras, 2 in Bethnal Green, and 2 in Wandsworth The 35 cases of cerebro-spinal meningitis included 5 in Stepney, 4 in Hackney 3 in Paddington, 3 in Bethnal Green, 3 in Battersea, and 3 in Wandsworth, and of the 7 cases notified as poliomyelitis, 2 belonged to Holborn and 2 to Wandsworth

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided, the death rates from all causes are further corrected for variations in the sex and age constitutions of the populations of the several boroughs During the four weeks ending Jan 29th the deaths of 4675 London residents were registered equal to an annual death rate of 13 5 per 1000 in the three preceding months the rates had been 14·6, 16 2 and 17 3 per 1000 respectively The death rates in January ranged from 10·3 in the City of London 10·8 in Lewisham 11 1 in Kensington in Hampstead and in Wandsworth, 11 3 in Stoke Newington and 11·4 in Camberwell to 15·4 in Battersea 15 6 in Islington 16·0 in Southwark 16 1 in Bermondsey, 16·9 in Bethnal Green and 19·9 in Shoreditch The 4675 deaths from all causes included 264 which were referred to the principal infectious diseases, of these 38 resulted from measles, 20 from scarlet fever 71 from diphtheria 62 from whooping-cough, 7 from enteric fever, and 66 from diarrhœa and enteritis among children under 2 years of age. The 38 deaths from measles showed a decline of 128 from the corrected average number in the corresponding weeks of the five preceding years and included 14 in Finsbury 4 in Islington 4 in Stepney 4 in Southwark 2 in Shoreditch 2 in Wandsworth and 2 in Deptford The 20 fatal cases of scarlet fever were slightly above the corrected average number, and included 3 in Fulham 3 in Camberwell 2 in Islington, and 2 in Bermondsey The 71 deaths from diphtheria were 23 in excess of the corrected average number, this disease was proportionately most fatal in Shoreditch Bethnal Green Stepney Southwark and Battersea The 62 fatal cases of whooping-cough were 13 below the corrected average number the highest death rates from this disease were recorded in Chelsea St. Pancras Shoreditch Stepney Poplar Lewisham and Woolwich The 7 deaths from enteric fever were equal to one half the corrected average number and included 2 in Greenwich and 1 each in Paddington Kensington Poplar, Wandsworth and Lewisham The mortality from diarrhœa and enteritis among children under 2 years of age was proportionally greatest in Fulham St Marylebone Shoreditch Bethnal Green and Stepney In conclusion it may be stated that the aggregate mortality in London in January from the principal infectious diseases, excluding diarrhœa was 38 3 per cent below the average

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PRESENTATION TO A MEDICAL MAN —At the distribution of certificates to members of the Mount Hawke (Cornwall Home Nursing Class Dr A Forsyth was presented with a set of surgical instruments and The Index of Treatment" in appreciation of his services as honorary lecturer

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

Principalship of the University of Edinburgh.

THE appointment of successor to the late Sir William Turner, as Principal of the University of Edinburgh, lies with the Curators of Patronage. The curators are seven in number—three nominated by the University Court and four by the town council of Edinburgh The names of the present curators are Lord Dundas and Dr D F Lowe, elected by the University Court, and the Lord Provost and Councillors Harrison, Carter, and Lorne McLeod, elected by the town council. The late Sir William Turner was the third representative of the University Court, who will, no doubt, elect a member in his place before the appointment of Principal is made The Principal, who was formerly elected by the town council, holds office for life He is the president of the Senatus Academicus, in the absence of the Rector he presides at the meetings of the University Court, and in the absence of the Chancellor and Rector he presides at the statutory meetings of the General Council and also at the special meetings except for the election of assessors

Central Midwives Board for Scotland

The first meeting of the Central Midwives Board for Scotland, constituted under the Midwives (Scotland) Act 1915 was held at the offices of the Local Government Board for Scotland, Edinburgh, on Feb 18th Professor Sir J Halliday Croom was elected chairman, and Dr J Haig Ferguson deputy-chairman Mr D L Eadie has been appointed secretary

Morning Consultation Hour Proposed for Dundee Panel Patients

At a meeting of the Dundee National Insurance Committee held recently the question of a morning consultation hour for panel patients was discussed. The present arrangement made by the Committee with the doctors is that consultation hours shall be from 6 to 8 P M Before the war no exception was taken to those hours, but since all consulting work is now centred in an annexe of the Royal Infirmary, many patients have long distances to go between their homes and the consulting-rooms, often in inclement weather (formerly, of course, the doctors were consulted at their respective homes), and it was pointed out at the meeting that this was a hardship on ailing people, and that it must often increase illness and so the doctor's work A report from the Medical Benefit Committee was presented at the meeting, which stated that the Commissioners drew attention to the fact that they had received representations from societies to the effect that the absence of a morning consultation hour for insurance service practitioners in Dundee made it difficult for them to enforce their rules for behaviour during illness and that the present hours being from 6 to 8 P M insured persons who might have to be out after prohibited hours—for example, to obtain a sickness certificate—were liable to be fined When the matter was before the Dundee Panel Committee they intimated that there was no evidence to suggest that the morning consultation hour would be advantageous, and that it would be an act of tyranny on the part of Approved Societies to fine a person who in pursuance of the benefits of the Act could be proved to have visited

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1916

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS	Estimated population in the middle of 1914	NOTIFIED CASES OF INFECTIOUS DISEASE. Small pox.	Scarlet fever	Diphtheria.*	Typhus fever	Enteric fever	Other continued fevers.	Puerperal fever	Erysipelas	Cerebro-spinal meningitis.	Poliomyelitis	Total.	Annual rate per 1000 persons living	DEATHS FROM PRINCIPAL INFECTIOUS DISEASES. Small pox.	Measles	Scarlet fever	Diphtheria.*	Whooping-cough	Enteric fever.	Diarrhoea and enteritis (under 2 years)	Total.	Annual rate per 1000 persons living	Deaths from all causes.	Death rate per 1000 living †
LONDON	4 516,612	—	1032	830	—	37	—	22	281	35	7	2244	6·5	—	38	20	71	62	7	66	264	0·8	4675	13·5
West Districts																								
Paddington	142 055	—	31	17	—	1	—	1	16	3	—	69	6·3	—	1	1	—	3	1	3	8	0·7	134	12·2
Kensington	170,817	—	28	16	—	2	—	—	8	2	—	63	4·0	—	—	—	2	—	1	3	6	0·6	146	11·1
Hammersmith	124 750	—	29	15	—	—	—	—	8	—	—	52	5·4	—	1	1	1	1	—	5	9	0·9	124	12·8
Fulham	158 849	—	39	32	—	1	—	2	6	—	—	80	6·6	—	—	3	2	1	—	1	7	0·6	165	13·1
Chelsea	63 791	—	6	9	—	—	—	—	4	—	—	19	3·9	—	—	—	1	3	—	1	5	1·0	60	11·7
City of Westminster	162 346	—	26	11	—	—	—	—	7	1	—	45	3·9	—	—	—	—	—	—	2	2	0·2	140	12·6
North Districts																								
St. Marylebone	112 892	—	11	10	—	2	—	—	5	2	—	30	3·5	—	—	—	—	2	—	3	5	0·6	113	13·4
Hampstead	88 731	—	18	7	—	1	—	—	5	—	—	31	4·7	—	—	—	—	—	—	1	1	0·2	70	11·1
St Pancras	212 497	—	64	42	—	—	—	2	7	1	—	116	7·1	—	—	1	2	5	—	—	8	0·5	224	13·7
Islington	324 764	—	68	57	—	3	—	3	12	2	1	146	5·9	—	4	2	5	4	—	2	17	0·7	398	15·6
Stoke Newington	50,464	—	10	12	—	—	—	—	4	—	—	26	6·7	—	—	—	1	—	—	—	1	0·3	46	11·3
Hackney	223,724	—	57	29	—	2	—	—	8	4	—	100	5·8	—	1	1	4	2	—	2	10	0·6	228	13·4
Central Districts																								
Holborn	45 861	—	18	6	—	—	—	—	2	—	2	28	8·0	—	—	1	—	—	—	—	1	0·3	46	13·1
Finsbury	83 212	—	31	10	—	2	—	—	6	2	—	51	8·0	—	14	—	1	1	—	—	16	2·5	98	15·2
City of London	17,129	—	2	3	—	—	—	—	1	—	—	6	4·6	—	—	—	—	—	—	—	—	—	13	10·3
East Districts																								
Shoreditch	108 859	—	30	27	—	2	—	—	10	—	1	70	8·4	—	2	1	4	3	—	7	17	2·0	161	19·9
Bethnal Green	127 662	—	47	30	—	1	—	2	12	3	—	95	9·7	—	—	—	4	2	—	6	12	1·2	160	16·9
Stepney	273 285	—	67	95	—	3	—	—	27	5	—	197	9·4	—	4	1	9	10	—	10	34	1·6	285	14·2
Poplar	160 222	—	32	28	—	4	—	—	20	1	1	86	7·0	—	—	1	—	6	1	2	10	0·8	190	15·3
South Districts																								
Southwark	186 941	—	22	38	—	—	—	3	18	—	—	81	5·6	—	4	—	7	4	—	1	16	1·1	228	16·0
Bermondsey	124 213	—	20	40	—	1	—	—	17	1	—	79	8·3	—	1	2	2	2	—	—	7	0·7	153	16·1
Lambeth	296 724	—	41	34	—	3	—	4	8	—	—	90	4·0	—	—	1	6	2	—	7	16	0·7	300	12·9
Battersea	167 338	—	70	50	—	1	—	1	11	3	—	136	10·6	—	1	—	6	—	—	1	8	0·6	197	15·4
Wandsworth	333 993	—	87	80	—	4	—	2	12	3	2	190	7·3	—	2	—	8	3	1	2	16	0·6	288	11·1
Camberwell	262 020	—	56	39	—	1	—	—	21	1	—	118	5·9	—	1	3	2	—	—	1	7	0·3	231	11·4
Deptford	109 182	—	39	20	—	—	—	1	10	—	—	70	8·4	—	2	1	—	—	—	2	5	0·6	110	12·9
Greenwich	96 037	—	25	19	—	1	—	—	6	1	—	51	6·3	—	—	—	3	—	2	1	5	0·7	104	13·9
Lewisham	172,433	—	31	22	—	1	—	—	4	—	—	58	4·4	—	—	—	1	6	1	2	10	0·8	145	10·8
Woolwich	122,836	—	27	32	—	1	—	1	10	—	—	71	7·6	—	—	—	1	3	—	1	5	0·5	128	13·9
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup

† The death rates are corrected for variations in sex and age constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

Tuberculosis Hospital is at present but the nucleus of what, it is hoped, will eventually be a larger hospital for tuberculosis established in connexion with King George s Hospital Most of the patients are out patients, many of whom are regular attendants, while others are patients of local practitioners and are sent by them for diagnosis Instruction is given to these patients and their friends verbally and by printed leaflets A few in patients are also treated, these are usually hopeless and some moribund when admitted, and although the admission of such patients naturally makes the statistics look bad, it is better for them to be in an institution than disseminating infection in dwelling houses The Lucknow Antituberculosis League was initiated in February, 1914, by Major Sprawson and launched at a public meeting in March, 1914, under the presidency of Colonel C C Manifold, I M S, Inspector General of Civil Hospitals It was hoped that in Lucknow the doctors would be able to teach a few educated and influential citizens the simple truths about tuberculosis, and that these laymen in their turn would carry on the instruction by magic lantern lectures and other means About 12 such lectures have been held throughout the year, three of them were large general gatherings, others select meetings at schools or private houses In some cases the lectures have been for women only as it is by educating the women that we can hope to better the home, where is usually the seat of tuberculosis Later the establishment of similar antituberculosis leagues is planned in other towns of the United Provinces and the coördination of their work Dr A C Lankester, who is on special duty for the purpose from the Government of India, is trying to organise antituberculosis measures throughout India

Town Planning

A plea for a "Greater Calcutta" was put forward at an exhibition of town planning methods at Calcutta by Professor Geddes, who is spending a short time in that city The efforts of the Calcutta Improvement Trust were illustrated by means of plans and diagrams The Central Avenue scheme was characterised by Professor Geddes as an honest effort to deal with an extremely difficult problem Of other cities of the world, he thought London should offer most interest to Calcutta, which was itself a product of direct Indian and European influence, and had been largely determined by London, as London had been largely determined by Rome Professor Geddes traced the Roman influence in the early development of London, and pointed out that Cheapside, the main shopping street of Roman days, remained a popular shopping resort to day, and a lasting illustration of the knowledge the Romans had of town planning The most interesting section of the exhibition deals with the Improvement Trust's plans for an improved Calcutta.

Feb 7th

EXETER DISPENSARY —The annual meeting of the subscribers of the Exeter Dispensary was held on Feb 24th The medical report stated that 1738 patients had been treated during the past year The financial statement showed a deficit on the year of £400 but fortunately for the charity there are invested funds of about £20 000 Owing principally to the absence of the medical officers who have accepted temporary commissions in the R A M C the committee has arranged with Dr Mabel Gates to undertake the whole of the work of visiting the home patients at an honorarium of 150 guineas per annum

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"Audi alteram partem"

VENEREAL DISEASE IN THE ARMY

To the Editor of THE LANCET

SIR,—Your leading article in THE LANCET of Feb 5th under the above heading contains an appreciative reference to the Association for Moral and Social Hygiene for which I should like to thank you The same issue contains an annotation on the Importance of Science to the State, pointing out that the checks which we have sustained since the war began can in large part be attributed directly and indirectly to a lack of knowledge, on the part of our legislators and administrative officials, of ordinary scientific matters Is it not possible that the checks which have so constantly been sustained in well intentioned efforts to deal with the evils of prostitution are due to the fact that until very lately no attempt has been made to apply scientific methods to that problem?

Within the last few years a beginning of serious sociological study in this direction has been made[1] To prosecute such a study is one of the main objects of the Association of Moral and Social Hygiene, it is, I believe, the only British organisation which has done anything in that direction Its support of the equal moral standard, and its opposition to official regulation of vice, originally based on ethical considerations, have found full scientific justification Surely this must be so if the conceptions of morality conflict with scientific theory, there must be something wrong with one or the other, and it may be necessary to re investigate the grounds of both In this view I believe you and most of your readers are at one with our Association When serious proposals are put forward to meet an acknowledged evil it is an ungrateful task to indulge in merely negative criticism Yet negative criticism has its value if it prevents the waste of effort involved in following false trails

Probably everyone will agree with you in desiring that military areas should not be frequented by "undesirable" women The question is how that is to be attained The proposal to deport all such women appears to us to be open to grave constitutional objections Moreover, it bristles with practical difficulties with which I will not take up your space Drastic measures applied to prostitutes have never yet been successful, indeed, history seems to show that the more drastic the effort the more complete has been its failure It is well known that the amount of immorality and consequent disease has varied not only in the different training camps, but also in the same camp when occupied by different bodies of troops Hence when disease is specially prevalent in a given area it seems reasonable to inquire whether there is anything in the special conditions or arrangements of the men which may account for it I may say that my Association has made private representations along these lines to the military authorities

In the present abnormal circumstances, when the ordinary civil law is in so many respects superseded, and when so large a proportion of our young men are under military law, the constitutional the doctor during the evening The clerk afterwards wrote to the Commissioners stating that as so many of the panel doctors were engaged on military duties they deemed it inadvisable to suggest any alteration meantime The Commissioners replied that at present they did not mean to ask for any change in the present arrangements Ultimately the proposal for a morning hour was agreed to by 13 votes to 10, and the matter was then remitted to the Medical Benefit Committee to arrange As many doctors are in the habit of starting on their rounds at 9 A M a morning hour would curtail the time free for visiting patients in their homes, so that the proposal does not make entirely for inefficiency

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[1] See Mr A Flexner's book on "Prostitution in Europe" and the discussion on Syphilis and the State at the International Congress of Medicine in 1913

Feb 28th

PARIS

(FROM OUR OWN CORRESPONDENT)

The Health of an Army in War and Peace

TERRIBLE epidemics might have been expected in the train of the colossal military operations now in progress A very interesting inquiry upon this subject admits of the conclusion that in France fewer cases of illness are occurring in the army during the present war than had occurred in time of peace Maladies such as scarlet fever and mumps have practically disappeared Typhoid alone has increased in notable degree, but it gives rise to far fewer fatal results than before the war, due doubtless to improved methods of treatment The usual mortality of typhoid in hospitals before the war was 12 per cent It has fallen in the last quarter of 1915 to 2 6 This is indeed a victory of which the public health service may be proud For the sum total of infectious disease—measles, scarlet fever, mumps, typhoid, cerebro spinal fever, diphtheria, dysentery—if a comparison be made of the figures of to day with those of the fourth quarter of the year 1911 (the last year of which statistics have been published) it will be seen that the mortality has diminished by almost one half In the last quarter of 1911 it was at the rate of 0 27 per cent of effectives and it has fallen for the same period of 1915 to 0 15 per cent

Service of Stomatology at the Front

M Régis has given the Paris Society of Medicine details regarding the service of stomatology which has been created at the front, thanks to the initiative of the medical staff With a minimum of expense a number of consultations and dental operations have been arranged for The service does not cease operations during marches owing to the rapidity with which its material can be installed M Butte remarked that it would be of great value to attach to each centre of venereal disease a dentist with medical qualifications to prepare the mouth of the patients and permit of the application of appropriate mercurial treatment without delay

Colloidal Gold in Treatment

Dr Paul Delbet has made a complete study of colloidal gold therapy from the point of view of surgical infections He uses the blue variety of colloidal gold containing ¼ milligramme per c c Colloidal gold gives rise to a marked leucocytosis and can be employed as an intravenous injection Thus given a daily injection of 1 c c suffices When the infection is not urgent a dose may be given every other day Reaction may sometimes be violent In one desperate case the patient expired an hour after an injection of 2 c c. Dr Delbet brought forward a series of 29 cases, and drew the conclusion that the injection is indicated in wounded men in whom the skull, pleural or abdominal cavity has been opened, or a limb amputated, and whose condition continues to cause anxiety, while any further surgical intervention is out of question In a second category of cases the surgeon may be hesitating between radical or more conservative intervention Colloidal gold may then prudently be employed concurrently with the conservative treatment In another class of case M Letulle and M Mage conceived the idea of employing this therapeutic agent in typhoid whenever the rectal temperature reached or passed 38° C They also administered a maximum of one intravenous injection per day measuring 1–1¼ c c, and containing about ¼ milligramme of colloidal gold Their observations show that by cold bath treatment combined with gold, a rapid crisis is constantly brought about, and this fall of temperature may be maintained to a final happy issue M Guinon instanced several favourable cases Colloidal gold has to him the important advantage over colloidal silver in the treatment of infants, that 1 or 2 c c suffice to produce a result instead of 6 to 10 c c in the case of silver In view of the structure of the veins in the child this constitutes an appreciable advantage

Dearth of Thermometers

At the Medical Society of the Hospitals M Netter has called attention to the dearth of thermometers in the hospital service, which is such that it is impossible to provide a separate instrument for each patient, so that a grave risk exists of infection where contagious cases are concerned This awkward situation is the result of the fact that before the war so many thermometers came into France from Germany French makers have proceeded to meet the immediate need, but in order to accelerate matters the society proposes to ask the Assistance Publique to take the necessary steps

A New Stereoscope

M Violle has exhibited a new stereoscope which allows of examining radiograms of war injuries in their natural relief The instrument is a variant of the ordinary stereoscope and inverts the image, a drawback soon surmounted in practice The wounds and the projectiles which have produced them appear in perspective just as if the flesh were transparent The new method is said to give security and rapidity to the operating surgeon

Feb 28th

NOTES FROM INDIA

(FROM OUR OWN CORRESPONDENTS)

Antituberculosis Work in Lucknow

IN his Annual Report for 1914 of the Civil Hospitals and Dispensaries of the United Provinces Colonel C Mactaggart devotes a considerable section to the antituberculosis work organised by Major C A Sprawson in Lucknow This work has been principally upon two lines—the Lucknow Tuberculosis Hospital and the Lucknow Antituberculosis League The former attempts to educate as well as to treat the patients, and through them their relatives and friends the latter endeavours to educate the people as a whole to some knowledge of the dangers of tuberculosis and the means of dealing with its spread in Lucknow The Lucknow

Tuberculosis Hospital is at present but the nucleus of what, it is hoped, will eventually be a larger hospital for tuberculosis established in connexion with King George s Hospital Most of the patients are out patients, many of whom are regular attendants, while others are patients of local practitioners and are sent by them for diagnosis Instruction is given to these patients and their friends verbally and by printed leaflets A few in patients are also treated, these are usually hopeless and some moribund when admitted, and although the admission of such patients naturally makes the statistics look bad, it is better for them to be in an institution than disseminating infection in dwelling houses The Lucknow Antituberculosis League was initiated in February, 1914, by Major Sprawson and launched at a public meeting in March, 1914, under the presidency of Colonel C C Manifold, I M S, Inspector General of Civil Hospitals It was hoped that in Lucknow the doctors would be able to teach a few educated and influential citizens the simple truths about tuberculosis, and that these laymen in their turn would carry on the instruction by magic lantern lectures and other means About 12 such lectures have been held throughout the year, three of them were large general gatherings, others select meetings at schools or private houses In some cases the lectures have been for women only as it is by educating the women that we can hope to better the home, where is usually the seat of tuberculosis Later the establishment of similar antituberculosis leagues is planned in other towns of the United Provinces and the coördination of their work Dr A C Lankester, who is on special duty for the purpose from the Government of India, is trying to organise antituberculosis measures throughout India.

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To the Editor of THE LANCET

SIR,—Your leading article in THE LANCET of Feb 5th under the above heading contains an appreciative reference to the Association for Moral and Social Hygiene for which I should like to thank you The same issue contains an annotation on the Importance of Science to the State, pointing out that the checks which we have sustained since the war began can in large part be attributed directly and indirectly to a lack of knowledge, on the part of our legislators and administrative officials, of ordinary scientific matters Is it not possible that the checks which have so constantly been sustained in well intentioned efforts to deal with the evils of prostitution are due to the fact that until very lately no attempt has been made to apply scientific methods to that problem?

Within the last few years a beginning of serious sociological study in this direction has been made[1] To prosecute such a study is one of the main objects of the Association of Moral and Social Hygiene, it is, I believe, the only British organisation which has done anything in that direction. Its support of the equal moral standard, and its opposition to official regulation of vice, originally based on ethical considerations, have found full scientific justification. Surely this must be so if the conceptions of morality conflict with scientific theory, there must be something wrong with one or the other, and it may be necessary to re investigate the grounds of both In this view I believe you and most of your readers are at one with our Association When serious proposals are put forward to meet an acknowledged evil it is an ungrateful task to indulge in merely negative criticism Yet negative criticism has its value if it prevents the waste of effort involved in following false trails

Probably everyone will agree with you in desiring that military areas should not be frequented by "undesirable" women The question is how that is to be attained The proposal to deport all such women appears to us to be open to grave constitutional objections Moreover, it bristles with practical difficulties with which I will not take up your space Drastic measures applied to prostitutes have never yet been successful, indeed, history seems to show that the more drastic the effort the more complete has been its failure It is well known that the amount of immorality and consequent disease has varied not only in the different training camps, but also in the same camp when occupied by different bodies of troops Hence when disease is specially prevalent in a given area it seems reasonable to inquire whether there is anything in the special conditions or arrangements of the men which may account for it I may say that my Association has made private representations along these lines to the military authorities

In the present abnormal circumstances, when the ordinary civil law is in so many respects superseded, and when so large a proportion of our young men are under military law, the constitutional argument as to equal treatment of men and women might meet with scant sympathy But these abnormal circumstances cannot interfere with the contention, abundantly supported by experience under the most diverse conditions, that the evils in question never have been and never can be subdued by measures dealing only with women *Identical* treatment may be impossible, but if, as we affirm, *equal* treatment is scientific, it is a guiding principle to be kept in view under all circumstances, and acted on so far as is practicable

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[1] See Mr A. Flexner s book on Prostitution in Europe" and the discussion on Syphilis and the State at the International Congress of Medicine in 1913

I am, SIR, yours faithfully,
HELEN WILSON, M.D Lond,
Honorary Secretary Associati n of Moral and Social Hygiene
19, Tothill-street, S W Feb 14th 1916

PROPHYLACTIC VACCINATION AGAINST HAY FEVER

To the Editor of THE LANCET

SIR,—I was very interested to read the paper on the above subject by Dr B P Sormani in THE LANCET of Feb 12th With much of his advice for the prophylactic treatment of hay fever I am in considerable agreement, such treatment certainly should give fairly good results I think, however, in many cases he must have wasted much time before he reached an effective dose In point of fact, Dr Sormani's methods do not differ so very much from those of other people, except that he refuses to make use of the specific eye reaction for judging his dose, though he insists that this reaction is still necessary

Whatever may be the result in practice, the principles on which Dr Sormani has based his modifications seem to me sufficiently erroneous to justify a letter on the subject at a time when most of your readers are thinking of, and working at, other things He writes that he bases his prophylactic treatment against hay fever on Wright's prophylactic treatment against typhoid, saying "In determining the first dose of 1000 million typhoid bacilli Wright probably only considered how many typhoid bacilli a normal man could stand without suffering any serious reaction" Wright, of course, did nothing of the sort. His main concern was to find a dose of typhoid bacilli which would evoke a good immunisation response in the patient It was precisely the same object which Noon, and afterwards the present writer, had in view when we were looking for the optimum prophylactic dose for hay fever people

I think that Dr Sormani is misled in another respect by this analogy of typhoid inoculation A hundred men awaiting a prophylactic dose of typhoid have not got typhoid fever, and probably never have had it But a hundred men awaiting prophylactic inoculation against hay fever have all of them had hay fever, and would be having it at that moment but for the solitary fact that the appropriate pollen is not in the atmosphere As far as their bodies are concerned, they have all the factors present necessary for hay fever, and, like any other collection of patients suffering from a set of disabilities, they differ almost infinitely in the extent of their disabilities Therefore I still think it wise to suit the dose of vaccine to the degree of susceptibility to the disease rather than to fix the first dose on the assumption that they all of them would be the most severe cases possible, and then to cautiously increase from such a dose. In the hay fever out patient clinic at St Mary's Hospital, and with our private patients, we have been in the habit of giving rather less than the optimum dose as judged by the ophthalmo-reaction, and then have cautiously increased the dose, as Dr Sormani does

He also says a good deal in his paper about the swelling at the site of the inoculation, and urticaria which may occur immediately after the injections, and suggests that this may be some form of anaphylaxy I think it has nothing to do either with hay fever or anaphylaxy If it occurs at all it does so after the first inoculation, and is always less, or absent, after the second inoculation, and I think can always be controlled by lactate of calcium

There is one other point where I am sure Dr Sormani is wrong He says that it is a "well known fact" that the pollen toxin soon loses its antigen power, as far as one can judge it does nothing of the kind It certainly retains its power of producing the hay fever symptoms for a very considerable period. For example, extracts made by Noon in 1910 still worked well in 1912, and as I have just tested, are potent to this day, though not quite so strong as they used to be If the toxin has changed but little as a toxin, there is no reason to suppose that it will fail to act as an antigen, and produce the antitoxin At any rate I am sure there is no real reason for making up a fresh vaccine for each inoculation, as he suggests

I should much like to know the strength of the extract made by Dr Sormani by grinding with sand. Extracts which we have made in a similar fashion have been very weak Perhaps this accounts for the fact that he gives such big doses as 1000 units, for we should regard 500 units as a big dose

Dr Sormani says that I begin treatment in October, as a matter of fact, I advise treatment as early as this only in the most severe cases, and in particular in those cases where treatment has not been too successful the previous year This last winter I have been inoculating only two patients since October I am still advising very slight cases of hay fever to postpone prophylactic treatment till March It is certainly difficult, as Dr Sormani says, to tell how much treatment will be necessary While it is true that comparatively severe cases sometimes respond well to what would seem to be much too few inoculations, yet, on the other hand, the more inoculations one gives the more certain is the success

I am Sir, yours faithfully,
Devonshire-place W Feb 23th 1916 J FREEMAN

TUBERCULOSIS AND THE WAR

To the Editor of THE LANCET

SIR,—With regard to your annotation on this subject in THE LANCET of Jan. 15th it is a little difficult to understand how tuberculosis is to be eradicated if many of the present methods of dealing with this disease are persisted in From experience gained in dealing with this disease in a county of 250,000 inhabitants over a period of seven years I have come to the conclusion that schemes are overweighted by the attention given to what are called advanced cases, indeed, in practice in most districts the only cases catered for are already incurable when first given a chance, and the most that can be expected of a large number is that they will develop into what may be called working chronics not necessarily innocent of the capacity to infect others Unfortunately very few sanatoriums have been provided which are suitable for the reception of curable cases, and even those that are suitable in themselves do not always provide the essentials for curing early cases, the existence of such institutions naturally brings discredit on the whole treatment

No one I suppose would recommend commencing to isolate scarlet fever at the end of the second week, yet it is just as foolish to imagine that isolating what are better called end cases will produce any diminution in the incidence of the disease Pulmonary tuberculosis is a disease which usually lasts for months or years, and is often more infectious in the early stage than later If a case is really an advanced one the expense can only be small if the patient lives for a short time, isolating at this stage will only prevent infection for a few weeks, and therefore will produce no result If, on the other hand, by advanced case is meant a chronic who may live for months and who placed in an institution may live a great deal longer without any prospect of permanent improvement, then the expense becomes prohibitive Furthermore, every penny spent at the wrong end of the scheme takes money from the treatment at the right end, and in addition as all sorts of spurious promises are held out to these hopeless cases in order to persuade them to go into institutions discredit is thrown upon the whole treatment The most feasible way of combating the disease would seem to be to leave alone, except in so far as nursing is possible, all advanced cases and commence with the early case, if, for instance, the first case from a family be taken at once and placed in a sanatorium, not only would the patient receive the maximum benefit, but the remainder of the family would be saved from becoming infected. It seems recognised by all that this is a very difficult disease to cure, the reason being that no effort is made to treat it effectually until it is hopeless That this feature of the case has not been overlooked by all may be gathered from a quotation which I have already made in THE LANCET of April 3rd, 1909, in a paper on Graduated Rest, from a lecture delivered by Professor Niemeyer, of Tübingen, at least as long ago as 1866 He makes the following observations in the course of other remarks on treatment —

> In the first case strict measures are as a rule considered useless and their enforcement unnecessary The patient is allowed to follow his employment until the rising pyrexia and the increasing debility force him to remain at home or until hæmoptysis pleuritic pains the appearance of dullness over the chest urgently demand that the supposed "secondary" pneumonia and pleuritic processes be submitted at least to a symptomatic treatment It will not be said that I exaggerate—let us be sincere! Is not this *laisser aller* practice founded on reasoning of everyday occurrence with regard to the affection under discussion" It is seldom that a medical man reproaches himself for having by his carelessness been guilty of the development of a phthisis florida .. It is true even in case the physician should have fully recognised the nature of the disease he will not be able to cut it short at once, but still he has every reason to give the strictest orders, he must do everything in his power to protect the patient from injurious influences and to place him under such conditions as may be expected to put a stop to the further extension of the pneumonic process, and prevent its termination in cheesy infiltration and disintegration of the lung tissue. Let any one make the experiment of having patients with the supposed signs of commencing pulmonary tuberculosis strictly confined to their beds for a time forbidding them all unnecessary talking and coughing and he will soon satisfy himself that many a patient gets well who would formerly have been assumed to be the subject of tuberculosis.

With the exception that fresh air is not mentioned this is a very good account of what sanatorium treatment should really be On meeting with a chronic or with an advanced case, inquiries should always be made as to whether this treatment had been tried at the proper time, and if not, why?—for at least as great discredit should fall on the medical man for omitting this treatment, if the indications were clear, as for neglecting to have an acute appendix operated upon Of course, we know now, though many seldom act upon the knowledge, that the pre-tuberculous stage is really always tubercle

If early cases are to be obtained it is highly necessary that sanatorium accommodation, however small in amount should be suitable A sanatorium should fulfil the following requirements (1) It should be a place where patients not manifestly ill can be sent, (2) the patients should be kept in bed so long as they have not a normal rectal temperature (97 7° F in the *morning*), this period will usually be short, (3) bad cases should *not be mixed up with good*, especially on the plea that it is impossible otherwise to get them to go to an institution; and especially (4) it should be clearly understood that on leaving the patients are not expected to require after care, and that they will be able to return to their previous vocations It is doubtful if it is worth while attempting to cure a disease if, after treatment, the patient is unable to live a normal life and cannot look after himself Anyone who has his mind full of after-care must also have his mind full of a very unsatisfactory type of case The object of treating these patients thus is threefold (1) to prevent the infection of families and the public early cases with a small amount of sputum may be very infectious (2) to instruct the patient how to treat himself in case of relapse, and how to avoid infecting his family should he remain or become infectious, (3) to prevent the formation of chronics who are the chief carriers of the disease

It is not to be assumed that a chronic will necessarily die from consumption, indeed, the danger of infection would seem to be proportionate to the length of the duration of the disease Finally, I should look very critically upon any scheme for attempting to place these patients in industrial colonies, a proposition which in itself admits incapacity to cure.

I am, Sir, yours faithfully,
EDWARD E PREST

Ayrshire Sanatorium, New Cumnock, Feb. 26th, 1915

THE BACTERIOLOGY OF CEREBRO-SPINAL FEVER

To the Editor of THE LANCET

SIR —The report of the Special Advisory Committee upon bacteriological studies of cerebro spinal fever during the epidemic of 1915[1] is one of the most inspiring and important pronouncements that have been published on the subject, and will be read with the greatest interest by everyone who has worked on the subject. I take it that by the publication of this report the matter has been thrown open for discussion, and one is therefore justified in meeting as far as possible one or two of the criticisms made therein.

Firstly, in regard to the rapid agglutination test which I put forward for the recognition of the meningococcus It is I believe, a reliable test, but it has been criticised by the committee under a misapprehension This I desire to remove in order that the method may not suffer from what is an undeserved stigma. They say

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[1] See THE LANCET Feb 26th, 1916, p 471.

> That this method is rapid cannot be doubted but its reliability is another matter even apart from the difficulties introduced by racial agglutinability A method must be judged by its results and in Dr Crowe's hands it seems to have led to a considerable percentage of error if we may judge from Major Gordon's criticism of the inordinate number of positive contacts segregated at Devonport, a question to which we shall return later

The method was evolved after the contacts had been discharged, and was not in use when testing the organisms derived from these contacts The research laboratory fitted up by the War Office was not in working order until after the camp was broken up, hence the "judgment by results" will, I trust, be suspended until the work of the present season can be taken as the criterion

The second criticism to which I wish to allude is contained in the same sentence quoted above Again, I would request that the present season's results may be brought under review before my medium is condemned on account of the high proportion of positives found by me In their statistics the Special Advisory Committee felt bound to exclude these as doubtful in view of the criticism by Major Gordon I would not for a moment object to this criticism were it put forward by the Special Advisory Committee as their own It is, however, founded on that of the Millbank observers, and evidence from still other observers, as I will shortly show from the report itself, tends to justify my disputed findings

In the first place considering the conditions under which these contacts were segregated I do not think it surprising that large numbers of them were positive That some were held who had organisms in their throats resembling meningococci, but which were not meningococci, is extremely likely, and the reason for this will shortly be clear, yet I do not think that the proportion was a large one Contacts were segregated in crowded hutments and, owing to the bad weather, frequently in close confinement, and this segregation was enforced before and not after the men had been swabbed to exclude the non infected Now the report itself shows that under circumstances of overcrowding as many as 66 per cent may be found to be positive Again, very intense methods were used to try to cure the carrier condition In the report of Dr Colebrook's work it is plain that such methods result in an extremely obstinate carrier condition There is thus no inherent improbability in my findings, for carriers would rapidly infect their neighbours, as was shown by me to occur (*vide* report) owing to close segregation, and would remain positive for a longer time by reason of excessive treatment The surprising thing is that after several weeks of such surroundings any of my contacts were found to be negative

On studying the report one finds that the Local Government Board obtained from 10 to 13 per cent positive among non contacts, whilst among military contacts the total percentage worked out at only 6 5 per cent We learn also that the greater amount of these were obtained by the Millbank method This percentage (6 5) excludes mine at the Devonport camp, and, of course quite properly so On comparing the Local Government Board figures with those of the military, one is forced to conclude either that the Millbank method is inadequate in finding positives, or that the Local Government Board workers, as is imputed to me, find meningococci where none exist Or we are left with the paradox that contacts give a lower percentage of carriers than non contacts, from which it would appear that the way to avoid becoming a carrier is to mix as far as possible with cerebro spinal fever cases, a *reductio ad absurdum* I cannot be certain as regards my positives because, as the Advisory Committee justly say, all confirmatory tests were abandoned This was, however, through force of circumstances, owing to an only partially trained laboratory staff and press of all sorts of other work But neither in the Millbank method could I perceive that any confirmatory tests were made use of, if we exclude the 23° C test, shown since to be unreliable

To put the matter succinctly, if I may say so, the Special Advisory Committee, of course quite un intentionally, have given full weight to the Millbank criticism that my medium errs in finding too many positive contacts, but without laying equal stress on the comments of other workers in regard to the medium sent out from the central laboratory

I am, Sir, yours faithfully,

Military Hospital Devonport, Feb 24th H WARREN CROWE.

THE SIGNIFICANCE OF CERVICAL CAPILLARY MARKINGS

To the Editor of THE LANCET

SIR,—In the recent correspondence on the "New Sign in Pulmonary Tuberculosis" I attempted to direct attention to certain red surface markings in the neighbourhood of the upper dorsal vertebræ in cases of pulmonary tuberculosis As none of the other correspondents wrote about them, and as I am unable to find any accurate reference to them in any work on pulmonary tuberculosis, I take the liberty, with your permission, of again directing attention to them

They may be seen as bright or dark red markings Sometimes they are isolated straight lines, few in number At other times they have a Y shaped appearance set close together or scattered Some cases show a distinct irregular circular form, almost like the spokes of a wheel radiating from a centre to a periphery They suggest capillary obstruction or congestion, and as such have no definite form They are situated most frequently on one or both sides of the seventh cervical and first dorsal vertebræ They may occur on one side only They may extend unilaterally or bilaterally as far as the third or fourth dorsal vertebræ Sometimes the circular form is found on one side only, or embracing both sides of the vertebræ, or a few lines may be found about the seventh cervical, and there may be a circle below

These markings are an abnormality, and though I have only seen them in association with pulmonary tuberculosis it is quite possible they may occur in association with other diseases, but the fact has yet to be recorded They are to be noticed at every age from 2 years to 50, and perhaps at a further age Statistics which I have collated show that 80 per cent of the supposedly tuberculous out patient children under 5 years of age have the markings Of children between 5 years and 15 years of age 70 per cent showed the markings These include out patients and tuberculosis dispensary patients, the 100 per cent being notified cases Of the tuberculosis dispensary patients over 15 years of age 56 per cent of them have the markings and 44 per cent have no markings Of these dispensary patients, 15 have other lesions in addition to their pulmonary lesion Seven show markings and eight are negative, making the percentage 45 and 55 respectively

As the space at your disposal for a letter is necessarily limited I will at once arrive at my conclusions —

1 That 80 per cent of the tuberculous children under five years of age who have come under my notice have been infected in the postero apical regions, and that pleural thickening has taken place, giving rise to capillary congestion

2 As I am unable to find capillary markings in certain older children (5 to 15) who have been free from early wasting, marasmus, pneumonia, or bronchitis, I think their infection has occurred after infancy

3 That the "older children" who have the markings have become to some extent immune, and as can be shown by comparison with the still older (over 15 years) cases their comparative recovery is more assured than in those who are free from markings

4 That the presence of tubercle bacilli in the sputum of tuberculous patients is of rarer occurrence in those showing markings than in those having no markings

5 The curative response to tuberculin and to general treatment is better in those having markings than in those without

I am, Sir, yours faithfully,
R CRAWSHAW HOLT, M D.Durh., M R C P Lond
Manchester Feb 17th 1916

IRON-BACTERIA IN SHIP'S TANKS

To the Editor of THE LANCET

SIR,—I read with interest the annotation in THE LANCET of Feb 5th on the occurrence of iron bacteria in ferruginous waters During the past year I have come across two ships with their water tanks infected with crenothrix. As I have seen no record of the presence of these organisms in ships' tanks I thought the following note might be of interest Both ships had had cases with gastro intestinal symptoms on board, which together with the condition of the water resulted in samples from their drinking water tanks being sent up to the laboratory of the R N Hospital, Chatham, for bacteriological examination One of the ships sent also a sample from the supply hose of the "water boat" which provides ships in harbour with fresh water

All these three samples presented much the same appearance, they were cloudy and contained a plentiful dark red brown deposit Microscopical examination of this deposit proved it chiefly to consist of threads of a crenothrix, the outer mucilaginous membranes of which were impregnated with a granular reddish deposit The addition of a drop of dilute hydrochloric acid and potassium ferrocyanide solution turned the granules deep blue proving them to contain iron. These organisms are usually considered quite harmless, and the gastro intestinal symptoms on board were probably coincidental (in fact, some of the cases certainly were nothing to do with the water) But both ships complained of the unpleasant taste and appearance of the water, especially after the tanks had been shaken up in rough weather The presence of the organism in the supplying "water boat shows the source of origin of the crenothrix, and the *possibility* of any ship with defective lining to her water tanks getting infected with this unpleasant if innocuous organism

I am, Sir, yours faithfully,
SHELDON F DUDLEY, M B B S Lond,
Staff Surgeon R N
Central Laboratory R N Hospital Chatham Feb 25th 1916

ALBUMINURIC RETINITIS IN EPIDEMIC (ACUTE) NEPHRITIS

To the Editor of THE LANCET

SIR,—In your issue of Feb 12th, under the above heading, Dr Samuel West comments upon my article in THE LANCET of Dec. 18th, 1915 It clearly was not possible, within the scope of such an article, to define and delimit exactly what are meant by chronic nephritis and by renal retinitis, and Dr West in his letter does not define, for the same reason no doubt, what he means by a granular kidney Dr West has consistently advocated the differentiation of two forms of renal retinitis, a differentiation which I believe to be of great importance I cannot, however, follow him when he says that the 'exsudative" form "is the same as that usually understood by the term acute optic neuritis and is like that seen with a cerebral tumour" In rare instances renal retinitis in its early stage takes the form of "optic neuritis," which may be indistinguishable from that seen with a cerebral tumour, this, however, is quite unusual, and with the progress of the disease the development of isolated soft edged areas of exudate, wide of the disc, usually renders obvious the nature of the change Nor can I agree entirely with his description of the 'degenerative" form, for whilst the appearances are highly characteristic they are not entirely pathognomonic of granular kidney, and although the small white spots which compose the star figure are certainly very chronic in duration, I have watched them by means of outline plans from month to month, and in four cases at least have found them to disappear and leave no trace behind

With regard to the occurrence of retinitis in acute nephritis, I do not know if anyone can say when an acute becomes a chronic nephritis, I certainly *did* not suppose that nine weeks was the qualifying term My point was that amongst these cases of nephritis the greater number, as I think is made clear by Dr Langdon Brown, ran the course of an acute nephritis, and after some weeks *improved* towards recovery, and among such cases I did *not* find a case of retinitis On the other hand, in some cases the disease continued for many weeks or several months, with persistent urinary signs, persistent œdema, and a considerably increased *blood* pressure, and it was amongst this group of chronic cases, *or* should I have said more chronic cases? that all the instances of retinitis (five in number) occurred.—I am, Sir, yours faithfully,

Harley street W Feb 23rd, 1916 R. FOSTER MOORE

AN IMPEDIMENT TO A MEDICAL ENTENTE

To the Editor of THE LANCET

SIR,—The reference in your issue of Feb 19th to the fact that English surgical instrument makers and publishers do not distribute catalogues in France admits of easy explanation—viz, that a heavy duty is charged on such printed matter Only last month a catalogue forwarded to me by an English firm of instrument makers was charged 3 frs 80 by the French Customs On several occasions I have had to pay 2 frs 80 duty on the big biennial numbers of the *Chemist and Druggist*

It is obviously impossible to carry on commercial propaganda under these conditions

I am Sir, yours faithfully,
ALFRED S GUBB, M D Paris
Aix les Bains Feb 25th 1916

SISTER FRENCH MEMORIAL FUND

To the Editor of The Lancet

Sir,—May we draw the attention of former and present students of the Manchester Royal Infirmary to the above fund, which has been initiated to commemorate the 35 years of faithful service rendered to the institution by the late Sister French, who passed away in November last It is intended to place (1) a tablet in her old ward in S I Unit and (2) a small stained glass window in the infirmary chapel

Contributions may be sent to the general superintendent and secretary at the infirmary, and will be duly acknowledged by him

We are, Sir, yours faithfully,
G A Wright, F.R C S,
Honorary Consulting Surgeon
J Howson Ray, F R C S,
Honorary Surgeon, Manchester Royal Infirmary
Feb 25th, 1916.

CLINICAL THERMOMETRY

To the Editor of The Lancet

Sir,—May I add my testimony to that of Sir Lauder Brunton and Sir George Savage as to the use of the old indexless thermometers? I quite well remember using them in 1865–66 when acting as clinical clerk to Dr (now Sir Clifford) Allbutt at the old infirmary, Leeds On turning over my notes I find that these instruments were often used by both physicians and surgeons to the infirmary —I am, Sir, yours faithfully,

Charles Aldridge, M D Aberd
Plympton, South Devon, Feb 23rd, 1916.

THE COAL SMOKE ABATEMENT SOCIETY

To the Editor of The Lancet

Sir,—With reference to your appreciative article on the work of the Committee for the Investigation of Atmospheric Pollution, in which you give me the chief credit of founding the Coal Smoke Abatement Society, I wish to point out for the sake of historical accuracy that this is not correct This society was formed as the result of a letter addressed by Sir William Richmond to the *Times*, and published on Nov 18th, 1898, and the first meeting was held at 6, Onslow gardens, the residence of the late Mr Frederick Verney, at which Sir William Richmond was elected President

I am, Sir, yours faithfully,
H A Des Vœux,
Honorary Treasurer Coal Smoke Abatement Society
Buckingham Gate, S W Feb 26th 1916.

Women Dental Students in London —The School of Dental Surgery at the Royal Dental Hospital of London, in Leicester square has recently opened its classes to women students, who already have facilities for study at the Dental Department of University College Hospital A circular relating to arrangements for women dental students has been issued by the Dean of the London (Royal Free Hospital) School of Medicine, and can be obtained on application to the Secretary, 8, Hunter street, W C

Child-Welfare in Ireland —The Under Secretary for Ireland, Sir Matthew Nathan, recently announced at Dublin that a new Treasury grant of £5000 had been made available for child welfare in Ireland, the chief condition being that in case of its coming into operation in any district an equivalent sum should be raised from local bodies, either by way of a special rate or from private subscriptions So far the only local body to take action in this matter is the Newry urban council and their proposal has been sanctioned by the Local Government Board of Ireland

Obituary.

PIETRO GROCCO

Science, literature, art have their own ' front or "fighting line" as much as the profession of arms, and under each of the above heads Italy has just sustained losses not less severe than those of her general officers in the war zone. After De Cristoforis, Baccelli, and now, after Baccelli, Grocco, in these Italy has lost three of her greatest clinical teachers and consultants, the former two at a patriarchal, though still hale and active, old age the last named comparatively young

Pietro Grocco was born of humble parents in the Province of Pavia in the June of 1856, and while still a lad evinced at the lycée an intelligence and a mental energy which were yet more conspicuous at the University Enrolled in the medical curriculum he inspired all his teachers with the best hopes of his future, and, on graduating with honours, his record was inscribed in the University album as "the most brilliant ever registered at Pavia" Three years thereafter he repaired to Paris to attend the clinique of Charcot, and in 1882 he went to Vienna to study under Rosenthal—from both of whom he drew a knowledge and an inspiration which, embodied in papers read before successive congresses of "Medicina Interna," placed him in the front rank of Italy's rising clinicians A three years' tenure of the chair of practice of medicine at Perugia was followed by his election to a post on the same subject at Pisa, whence in 1892 he was transferred to Florence, there to act as Direttore della Medicina Clinica in the Istituto di Studi Superiori By this time he had become an authority in more than one group of diseases, and his skill in diagnosis and treatment found ever increasing scope in a consulting practice which extended all over Italy The Florentine school enjoyed, however, his special care and largess, founding as he did, mainly from his own resources, the *Istituto Antirabico* on the lines of Pasteur, and making the thermal waters of the neighbouring Montecatini a balneary centre in practical connexion with his courses on the vast group of rheumatoid maladies For a series of summers he first coöperated with Baccelli and then succeeded him in developing the efficacy and enhancing the repute of those waters, till numbers of patients, after wintering in this or that Italian ' sun trap," ceased to cross the Alps as formerly for balneary treatment, but found in Montecatini a "cure" equal, if not superior, to that supposed to be peculiar to the Austro Hungarian resorts

In 1905 he was made a Senator of the Kingdom, in accordance with Italy's custom to promote men of scientific distinction to the Upper Chamber, and here again his advice or intervention was of public benefit in more than one hygienic "departure Consulting practice and clinical prælections and occasional legislative work, however, did not exhaust his energies, his pen being often in request not only for contributions to the agenda paper of this or that Congress of Internal Medicine, but also for express publications The mere enumeration of these occupies half a closely printed column of the leading Florentine journal—many of them of more than temporary value, some of them, indeed, still standards of reference, particularly on neurasthenia and arterio sclerosis, on angina pectoris, on certain forms of hepatic disease as ascertained by palpation and percussion, on the differential diagnosis of biliary calculus and duodenal ulcer, on the iagnostic importance of aorto pericardiac mur ıurs, to say nothing of his controversy with rofessor Teissier on "The Triangle of Grocco"

At his country seat in the Province of Pisa e interested himself deeply in the welfare of is tenantry, being a landlord whose care pursued ıem beyond their material concerns and inter ened, often with salutary effect, in their vic ıtime, educational and social Honours came o him in profusion—Cavaliere dell' Ordine della orona d'Italia Ufficiale of the same Order, and orresponding membership of learned societies, ıedical and other, both Italian and foreign, uropean and Transatlantic

Spare in build and wiry in physique, Grocco verta͏xed his powers beyond the restorative fficacy of holiday or vacation—too few and too ften interrupted as these were An attack in ugust last of broncho pneumonia confined him to ıis room. Occasional improvement, followed by elapses of progressive gravity, indicated change of scene and air, and from Florence he was emoved to his Pisan château of Castiglioncello But this was not enough. After a brief sojourn in that charming retreat he yearned for Alpine air, and, against the remonstrances of his medical colleagues, he set out for Courmayeur, in the Alta Italia, accompanied by Dr Baduel and another pro fessor and consultant of the Florentine school. Arriving at his destination, after a seemingly smooth journey, he suddenly collapsed in a fit of profuse hæmoptysis, and literally died in the arms of Dr Baduel—mourned throughout Italy as a great physician, a great teacher, and an exemplary citizen, whose 59 years of life will long be held in grateful remembrance by patients of nearly every nationality, who owe to his advice and to his skill a length of days which he was all too self denied to reach or to enjoy

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GEORGE BERTRAM HUNT, M D LOND

George Bertram Hunt, the elder son of the late George Hunt, a member of Lloyds, took his medical course at University College, London, where he was Atkinson Morley scholar, and after qualifying in 1894 held in succession the house appointments of surgeon, physician, resident officer, and obstetric assistant, contributing at this time a series of useful clinical articles to this and other medical journals He took the M.D of London University and then entered private practice at Scarborough, latterly in partnership with Dr George Handcock, and was for many years on the staff of the hospital and dispensary Very gradually, but inevitably, a chronic fibroid phthisis dating from his student days incapacitated him from general practice and he sought relief in Switzerland, where for the last five years he was a well known figure at Leysin and Arosa, with a short interval as medical officer to a Nile boat As his physical ability diminished he remained mentally keen and alert and occupied himself with translations of medical books and such clinical work as was open to him His life was an example of cheerful endurance of physical limitation and a constant stimulus to his many friends to make the best of their own lives

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RICHARD MILNTHORP, M R C S, L R C P LOND —Mr Richard Milnthorp who recently died from pneumonia in Leeds at the age of 41 was a civil surgeon in the South African War with temporary rank as Captain He practised later at Chatham, then settling in Leeds 11 years ago he built up an extensive practice in the Burmantofts district where he will be greatly missed by the poor

The War.

THE CASUALTY LIST

THE following names of medical officers appear among the casualties announced since our last issue:—

Killed

Lieutenant J T Waite, 5th East Kent Regiment (T.F), The Buffs, graduated in 1896, and on the outbreak of war left his practice at Pluckley, Kent, to take his place in a machine gun section.

Died

Captain H J Rutherford Jones, R A.M C , received his medical education at the London Hospital, graduating in 1890, and was at one time house surgeon at the Poplar Hospital for Accidents

Lieutenant R G Brown, R A.M C , graduated at Aberdeen in 1903, and was in practice at Portsmouth at the outbreak of war, when he was appointed a civil surgeon at the Alexandra Hospital, Cosham, and subsequently joined the Royal Army Medical Corps

Wounded

Captain H. Shield, R.A M.C , 1st Northumbrian Field Ambulance (T.F), attached to the 4th Battalion Yorkshire Regiment (T.F)

DEATHS AMONG THE SONS OF MEDICAL MEN

The following sons of medical men must be added to our lists of those who have fallen during the war:—

Lieutenant D W Ramsay, 10th Battalion Sherwood Foresters, eldest son of Dr F W Ramsay, of Bournemouth

W Gunn, Canadian Expeditionary Force, eldest son of Dr F W Gunn, of Ashington (late of Widdrington), Northumberland

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THE HONOURS LIST

His Majesty the King has conferred the Distinguished Service Cross upon—

Surgeon Alfred Robinson MacMullen, R.N

For his services on Jan 23rd, 1916, at Serengeti, in East Africa, when he showed remarkable bravery in searching for and rescuing a severely wounded officer under heavy machine-gun and rifle fire close to concealed enemy entrenchments

The following foreign decorations have, with the approval of His Majesty the King, been conferred upon the medical officers mentioned —

By the President of the French Republic

Legion of Honour Croix de Commandeur —Surgeon-General W G Macpherson C.B C M G , Surgeon General T P Woodhouse, C.B , Colonel Sir W B Leishman, C.B , F R S , A.M S

Legion of Honour Croix d'Officier —Colonel C H Burtchaell, C M.G , A.M S

Legion of Honour Croix de Chevalier —Major W R Battye, D S O , I.M S , Major R B Black, R.A M C , Major J S Pascoe, R.A.M.C , Major E Ryan, D S O , R.A.M.C , Major J W West, R.A.M C , Captain F Casement, R.A.M C , Captain D M McWhae, Australian A.M C , Captain (temporary Major) J Morley, R.A.M.C (T.F), Lieutenant (temporary Captain) J W Craven, R A.M C (T.F)

By the King of the Belgians

Commandeur de l'Ordre de Leopold —Surgeon General Sir A. T Sloggett, K.C.B , C M G , Colonel S G Moores, C.B , A.M S

Commandeur de l'Ordre de la Couronne —Surgeon General R Porter Lieutenant Colonel S L Cummins, C.M.G , R A.M C , Lieutenant-Colonel A. Chopping, C M G , R.A.M C

The Calling up of Medical Men

We learn that, owing to the desirability of applying to medical practitioners, who have not attested under the Derby Scheme, the same procedure as that adopted in respect of practitioners who have attested, it has been decided *not* to issue the new Army Council Instruction to which we referred in our last issue, p 487 (which must therefore be considered as cancelled), and to substitute an instruction which will be applicable to both categories of doctors, and also to make certain important additions, especially as regards postponement to March 31st

We are officially informed by the War Office that, in accordance with their previous announcements, doctors who have undertaken to accept a commission in the Royal Army Medical Corps, if offered one, will not be taken for general service, and therefore that any doctor in England and Wales who (whether attested under the Derby Scheme or not) has enrolled under the scheme of the Central Medical War Committee, or has offered his services in the Royal Army Medical Corps direct to the War Office, should, if he receives a Notice Paper from a Recruiting Officer calling him up (whether by reason of attestation or under the provisions of the Military Service Act), return it to the Recruiting Officer together with his certificate of enrolment or the War Office acknowledgment of provisional acceptance, as the case may be, and the Notice will then be cancelled and the practitioner will remain in the Reserve until selected for a commission in the Royal Army Medical Corps

Doctors will not be called up, whether by reason of attestation or under the Military Service Act, until after March 31st, 1916

Doctors in England and Wales who have not undertaken to accept a commission (if offered one) in the Royal Army Medical Corps will, when called up (whether by reason of attestation or under the Military Service Act), have the same rights of appeal for exemption as men who are not doctors, but all cases coming before the Central Tribunal will be decided by that tribunal *after receiving advice from* the Representative Committee of the Medical Profession specially recognised for the purpose Analogous arrangements will obtain in respect of doctors in Scotland

Vacancies for Medical Officers 2/1st South Wales Mounted Brigade —There is a vacancy for a Medical Officer in the Mounted Field Ambulance If accustomed to horses he could carry out some of the duties of Transport Officer The Imperial Service pledge is necessary A Regimental Medical Officer is also required for one of the Yeomanry Regiments of the Brigade Applications to Lieutenant-Colonel Herbert Jones, S M O, Bulcamp Blythburgh, Suffolk

Health of Munition Workers —An appendix to Memorandum No 3 on Industrial Canteens has just been issued (Wyman and Sons price 4*d*) by the Health of Munition Workers Committee dealing with the construction and equipment of canteens Plans and specifications are given of two types of canteen, and a list of articles required for the catering equipment Communications are to be addressed to the Secretary Canteens Committee, Central Control Board Kingsway W C

A Red Cross Commissioner for British East Africa —The joint committee of the British Red Cross Society and the Order of St John has with the approval of the War Office appointed Colonel James Montgomery C S I Red Cross Commissioner for British East Africa He is to start at once for East Africa

Standard of Vision for Commissions in Army —In reply to a question in the House of Comm Mr Tennant recently stated that the vision of applicant commissions in the army must not be below 6/24 wi glasses, and after correction with glasses it must be no in the better eye and not less than 6/12 in the other candidates for the Special Reserve of Officers the standard is demanded, except that vision without glasse each eye must not be below 6/36 There is no sp standard required for active as distinct from home servic

Medical News.

Society of Apothecaries of London — examinations held recently the following candidates w successful —

Surgery —W J May (Sections I and II) London Hospital; G Mitchell (Sections I and II) Westminster Hospital L F I (Sections I and II) Royal Free Hospital and G C N You (Section I) Middlesex Hospital

Medicine —E V Beaumont (Sections I and II) St Mary's H pital; H M Gray (Sections I and II) Guy's Hospital; L Ka (Sections I and II) Lausanne and London Hospital W J May (Section II) London Hospital

Forensic Medicine.—J Y Dent King's College Hospital P C Fenwick St Thomas's Hospital H M Hobson, London Hospit and G C N Younger Middlesex Hospital

Midwifery —P G H Bayon Genoa W F B Castle, Cambri and London Hospital B Ghobrial, Charing Cross Hospital; L Glover and W H A Pratt, Guy's Hospital and A. L. Wa Oxford and University College Hospital.

The Diploma of the Society was granted to the following candida entitling them to practise medicine surgery and midwifery W F B Castle, L Kahan W J May and G S Mitchell.

At the Oxford Ophthalmological Congres which, as we have already announced, will assemble Keble College, Oxford, on Wednesday, July 12th next S William Osler will open a discussion on the Relationship Ophthalmology to General Medicine, on the morning Thursday the 13th and Sir Anderson Critchett will reope the subject in the afternoon The following amongst other are expected to take part Mr P H Adams (Oxford) Dr F E Batten (London), Mr F Richardson Cross (Clifton Bristol) Dr A. G Gibson (Oxford) Dr T S Good (Littlemore Asylum), Dr C O Hawthorne (London), Dr Thomas J Horder (London) Mr W H H Jessop (London), Dr George Mackay (Edinburgh) Mr Leslie Paton (London) Mr Sydney Stephenson (London) and Dr James Taylo (London) The second day Friday, the 14th will be given up to papers demonstrations and cases Members willing to contribute to the success of the meeting with cases specimens new operations, or novelties of any kind are asked to communicate with Mr Bernard Cridland, Honorary Secretary at Salisbury House, Wolverhampton

Royal Free Hospital —At a time when every other medical school in London has a reduced number of students, the London School of Medicine for Women has doubled its entry The demand for increased facilities of clinical study for women is the natural result, and the committee of the Royal Free Hospital is appealing for £200 000 to provide maternity and special departments on a site of upwards of an acre in extent presented by an anonymous benefactor Information concerning the appeal can be obtained from the secretary Special Appeal Fund Royal Free Hospital Gray's Inn road, W C

Queen Victoria Jubilee Convalescent Home, Bristol —The annual meeting of the friends of this institution was held on Feb 22nd under the presidency of the Bishop of Bristol The medical report stated that during 1915 the patients admitted numbered 1857 The average daily number of patients was 74 the average length of stay being 14½ days The financial statement showed the income was £3431, and the expenditure amounted to £3008

Queen Charlotte's Lying-in Hospital, Marylebone road N W —At the annual meeting of the governors of Queen Charlotte's Hospital held on Feb 29th it was reported that since the outbreak of war over 1600 wives of our soldiers and sailors had been admitted to the wards of the hospital or attended and nursed in their own homes at a cost to the hospital of nearly £3000

Parliamentary Intelligence

NOTES ON CURRENT TOPICS

Retrenchment in Public Expenditure

SOME of the recommendations in the final report of the *Retrenchment Committee* now issued, affect medical men and the work of public health Amongst them are the following —

Home Office —The reports of certifying surgeons on accidents in factories should be dispensed with The Board of Control should be reduced in number and certain of their duties delegated to deputy commissioners or inspectors A reduced contribution should be prescribed towards the cost of institutional treatment for mentally defective persons, except in urgent cases, and a limitation should be fixed on the cost of maintenance in all cases

Local Government Board —A special inquiry into the administrative staff of the Local Government Board should take place The fees paid to medical practitioners for notification of infectious diseases should be reduced With regard to this matter the Committee say "We recommend that the Local Government Board should take immediate steps to revise the fees paid to medical practitioners for the notification of infectious diseases At present the medical practitioner receives a fee of 2*s* 6*d* if the case occurs in his private practice and 1*s* if the case occurs in his practice as medical officer of any public body or institution The total sums paid for notification fees in England and Wales in each of the five years ending 1911 was approximately £30,000, but since that time the total cost has steadily risen, and a further substantial increase of cost will probably result from the recent Order requiring the notification of cases of measles and German measles As doctors have now become familiar with the work of notification, and so many additional diseases have been added to the list since the fees were originally fixed we consider that the time has come for reducing the 2*s* 6*d* fee to 1*s* The amount of labour involved in filling up the notification form is, we understand, very slight indeed, and a fee of 1*s* would seem to be adequate remuneration for the purpose"

Board of Education —The responsibility for medical work except in public elementary schools, should be transferred from the Board of Education to the Local Government Board and the first opportunity should be taken of amalgamating the medical branches of the two departments Going into details on this point the Committee say "We understand that the activities of the Board of Education and the Local Government Board overlap to a considerable extent as regards arrangements for the health of mothers and young children under school age and that the two departments have found it very difficult to settle a clear line of demarcation between their respective spheres It is in our opinion most unsatisfactory that two Government Departments should deal with what is essentially the same problem, and it can only lead to disputes and an unnecessary inflation of staff It is a difficult problem to decide between the two departments in this matter, but as long as there continue to be two medical branches we consider that, in all the circumstances, the only satisfactory solution would be that the control of all institutions (including schools for mothers and day nurseries) providing in any way for the welfare, from the health point of view, of mothers or children under school age should be handed over by the Board of Education entirely to the Local Government Board for them to administer in connexion with their public health work generally and in coöperation with the local health authorities This plan is being adopted in Scotland and we see no satisfactory alternative to it in present circumstances The Board of Education could of course, still continue to pay grants, if necessary in respect of purely educational classes in cooking, needlework &c, held in any of the institutions or by local education authorities elsewhere, but the duties of the Board's medical branch should, in our opinion, not extend beyond the supervision of the health work carried out for children of school age who are being educated in elementary &c, schools under the Board's control The above arrangement would, of course be merely a makeshift and it is very desirable in our opinion that the first opportunity should be taken of amalgamating the medical branches of the two departments altogether

National Health Insurance —Arrangements should be made to reduce the number of Health Insurance Commissioners A special inquiry should be held into the cost of the Insurance Commissions' staffs, particularly in the case of the Welsh and Irish Commissions Extra statutory grants to Approved Societies, &c, outside the principle of insurance should be closely restricted A special inquiry should be undertaken with a view to the simplification of the Insurance Act

The Committee came to the conclusion that the centralisation of the whole service did not appear to be practicable, but that it should be possible, with the retention of the four National Commissions for England Wales, Scotland, and Ireland, to devise a scheme which would safeguard national interests and sentiments without the retention of so many as 21 Commissioners

With regard to the simplification of the Act the report says "We understand that much could be done to reduce the expense of the Act and to increase the sums available for benefit, by simplifying its more elaborate provisions The Chairman of the English Commission has informed us that some alterations have already been made by departmental action, and that considerable economies have been effected as a result, but we understand that very much larger savings would accrue—partly to public funds and partly to the funds of Approved Societies—if legislative sanction could be obtained for a number of more important administrative improvements which experience has shown to be desirable and which would simplify work without material loss of efficiency or hardship to individuals, but which cannot be carried into effect without legislation For instance, the present scheme for dealing with arrears of contributions and the accounting arrangements necessary to give effect to its provisions, the right of transfer, the special rates and options, the provisions for voluntary insurance and aliens, and many other points involve disproportionate expenditure, both to the State and to the societies But the evidence which we have taken showed that few, if any, of these proposals would be absolutely non-contentious, and it was quite clear that the questions which afford the best field for economies—the system of medical and sanatorium benefit the constitution of insurance committees the approval of small societies &c—were acutely controversial We could not have dealt with any of these questions without going far beyond the terms of our reference, and we have come to the conclusion that the best results would be obtained by a special inquiry into the whole administration of the Act, with a view to its reorganisation on a simpler basis"

These are recommendations only, but they will receive the close attention of the Government and of Parliament

The Supply of Medical Men

In the course of the debate on the third reading of the Consolidated Fund Bill on Tuesday Feb 29th, Mr KING commented at length on the demands now being made by the army on the medical profession He expressed the view that the organisation of the medical profession was wasteful and extravagant and took away too many men from the profession in this country

HOUSE OF LORDS

THURSDAY, FEB 24TH

Re-examination of Rejected Recruits

Answering the Duke of SOMERSET, Lord NEWTON (who spoke on behalf of the Earl of DERBY) said that the Military Service Act laid down that where a man had been medically rejected for the army since August 14th the production of the medical certificate of rejection would secure him exemption It was obvious, however, that the recruiting officer must be satisfied as to the genuineness of the claim for exemption He had to satisfy himself on three points (1) that the man who presented the certificate was the one to whom it was issued, (2) that the certificate was given by a medical man duly authorised by the War Office to examine recruits, and (3) that the certificate had been granted since August 14th If the applicant were able to prove these three points to the satisfaction of the recruiting officer the claim for exemption would be held to have been made good If the applicant were unable to prove them he would be notified accordingly by the recruiting officer and would be required to substantiate his claim before a civil court There was no obligation on any man who had been recognised as rejected to submit to re-examination unless he wished to obtain an armlet, but in order to receive it he must run the risk of being brought in for some kind of service It had been brought to the notice of the War Office that in some cases—no doubt owing to misunderstanding—recruiting officers had destroyed the blue paper certificates of rejection Obviously that was a wrong course, and in cases in which it had been taken instructions would be given for a fresh issue of medical rejection forms

HOUSE OF COMMONS

WEDNESDAY FEB. 23RD

The Sanitary Section of the Royal Army Medical Corps

Mr C DUNCAN asked the Under Secretary for War whether an army order had been issued to commanding officers of the Royal Army Medical Corps instructing them not to appoint men attested under the Derby scheme to advertised positions in the Sanitary Section of the Royal Army Medical Corps, and whether he was aware that men with special qualifications and experience as sanitary inspectors were passed over because of their having attested under the

Derby scheme and a preference given in making appointments to such positions to unattested men —Mr Tennant answered I have no knowledge of any order in the sense mentioned having been issued. If my honourable friend is aware of any specific case in which an attested man has been passsd over and will furnish me with particulars, I shall be glad to have it fully investigated

Action Against a Royal Army Medical Corps Officer

Mr Anderson asked the Under Secretary for War whether his attention had been drawn to the case of a Royal Army Medical Corps officer at Margate who, because his landlady in her own private house switched off the electric lights at a certain hour, called in an army guard and placed the woman under military arrest, whether he was aware that a judge and jury awarded the woman £250 damages, and whether the War Office proposed to take any further action concerning this officer —Mr Tennant replied I have seen a newspaper report of this case An official report from the military authorities is being obtained

Blinded Soldiers

Replying to Mr Tyson Wilson, Mr Tennant said The number of non-commissioned officers and men rendered totally blind in the present war and discharged between the outbreak of the war and Jan 31st, 1916, is 65, distributed as follows Privates 59, corporals 4, sergeant 1, company sergeant-major 1

Tuberculosis in the Army

In answer to Mr Astor, Mr Tennant wrote The total number of cases of soldiers invalided from tuberculosis which were dealt with by the Chelsea Boards in 1915 was 2770 The cases of pulmonary tuberculosis are not recorded separately

Midwives (Scotland) Act

Mr Watt asked the Secretary for Scotland whether the board under the Midwives (Scotland) Act had yet been set up, and if so, whether it had power to spend money with the right to tax municipalities and other local authorities for any deficit between its income and its expenditure —Mr McKinnon Wood replied The answer to the first part of the question is in the affirmative In answer to the second part, I would refer him to the provisions of Section 13 of the Act Judging from the experience of the working of the English Act there appears no likelihood of any immediate or substantial claim on local authorities

THURSDAY, FEB 24TH

Hospital Accommodation for New Zealand Forces

Sir Arthur Markham asked the Prime Minister whether his attention had been drawn to a statement made in the New Zealand Parliament by the Minister of Defence, the Hon J Allen, on July 7th, that when the New Zealand Expeditionary Force was despatched the British War Office undertook to provide relieving and stationary hospitals and a base hospital, that he, the Minister, being disturbed by a report received from the Dardanelles as to the medical arrangements, cabled twice to the Army Council offering hospital accommodation and equipment but received no reply, that subsequently the Governor cabled to Lord Kitchener asking that New Zealand should be allowed to provide her own hospitals, and that, after a delay of 16 days, a reply was received accepting the offer, whether he was aware that the New Zealand Cabinet on the following day took steps to despatch hospital equipment, would he say who was responsible for the delay in replying to the offer of the New Zealand Government, and whether the person or persons responsible would be dismissed for their neglect in this matter —Mr Asquith replied I have not seen the statement referred to I find that the cable from the Minister of Defence dated March 10th was not replied to until March 16th, when the personnel of the stationary hospital offered was accepted. It was necessary in the interval to consult the military authorities in Egypt before any proposals for bringing additional personnel were definitely confirmed In the circumstances I do not think that the time occupied in these consultations could have been much reduced

Nerve strained Soldiers

Mr Rendall asked the Financial Secretary to the War Office what sum the War Office had paid to asylum authorities since last June in respect to the care and treatment of uncertifiable soldiers invalided through nerve-strain in the war, and were these asylum authorities responsible, during the period that this payment was continued, for the care and treatment of soldiers so invalided who still continued in the army?—Mr Forster said in reply Soldiers so situated have not been placed in the care of asylum authorities, but certain hospital buildings have been taken over and are being conducted as military hospitals for this special class of case The whole responsibility remains directly with the military authorities.

Mr Butcher asked the Under Secretary for War what arrangements were now in existence for the care and treatment of uncertifiable cases of soldiers suffering from nerve disturbance and loss of mental balance, and whether he had yet been able to establish a special hospital for these cases in accordance with the intentions expressed by the Director of Medical Service on Feb 12th, 1915 —Mr Tennant answered The cases referred to are treated in the neurological sections of the Territorial Force General Hospitals throughout the country and in the Springfield War Hospital, Wandsworth and the Red Cross Military Hospital, Maghull, near Liverpool I have not been able to trace the expression of opinion referred to in the last part of the question, but I may say that no change in the present arrangements, which are satisfactory, is in contemplation

Re-examination of Rejected Recruits

In the course of the debate on the motion for the adjournment of the House, Mr Tennant said A man who has been medically rejected since August 14th, and has produced proper evidence of that fact which can be accepted at once, is outside the scope of the Military Service Act If he has been medically examined and if the medical officer has got his name in the book for that purpose, that evidence will certainly be accepted by the military authorities as being quite sufficient, if it can be proved that he is the right person to whom it is applicable and can show that he has been so medically rejected On the other hand, if a man has nothing to show, and merely relies upon his own *ipse dixit*, we cannot, and I do not think the House can expect us to accept that

TUESDAY, FEB 29TH

Medical Students and Military Service

Answering Mr Snowden, Mr Tennant said No alteration has been made in the decisions already announced in reference to medical students The regulations have been framed on the same lines as those for theological students. If there be any distinction perhaps the treatment of the medical student is more generous

Vaccination and Army Service

Mr Yeo asked the Under Secretary for War whether vaccination was obligatory on men entering the army under the Derby Scheme —Mr Tennant answered It is expedient that all men should be vaccinated or revaccinated, and if a man has signed an undertaking to be vaccinated, it is presumed that he will adhere to his undertaking If, however, he has not signed such an undertaking, no pressure is to be brought to bear on him to undergo vaccination if he has conscientious objections thereto

Wounded Soldiers in London Hospitals

Mr Tennant informed Mr Percy Harris that on Feb 12th, 1916, there were in military hospitals in London 2437 wounded soldiers, in auxiliary hospitals 1267, and in civil hospitals 578 In the military hospitals on the same date there were vacant 5346 beds

Medical Officers in Territorial and Base Hospitals

Mr Lynch asked the Under Secretary for War what reduction had been made in the number of civilian medical officers in the Territorial base hospitals in England, whether any reduction had been made in medical officers in the base hospitals in France, and, if so, to what extent.—Mr Tennant replied Civilian medical officers are employed to a very small extent in the Territorial Force general hospitals These institutions are staffed by officers of the Territorial Force The number of Territorial Force officers mobilised varies with the number of patients in the wards The number of medical officers in the base hospitals in France cannot be reduced. The military authorities consider that the number now so employed has reached an irreducible minimum

Distribution of Medical Officers in France

Mr Lynch asked the Under Secretary for War whether a certain number of medical officers were attached to each division at the front whose services were limited exclusively to that division, or whether, when a single division was engaged in a struggle of such protracted length that its medical officers and staff were exhausted, medical officers from a neighbouring division which had not been engaged could be drafted over into the exhausted division for its relief and the saving of the wounded —Mr Tennant answered What my honourable friend suggests not only can be done but is done It is the duty of the higher military authorities to distribute the medical officers under their command so as to meet the various exigencies which may arise The watertight compartment arrangement is obviously undesirable

Advisory Board for Army Medical Services

Replying to Mr Lynch Mr Tennant said that the unofficial members of the Advisory Board for Army Medical Services were Professor Kenwood Sir John Rose Bradford Professor Leonard Hill, Sir Anthony Bowlby, and Sir Charles Cameron Sir A Bowlby and Sir J R Bradford represented surgical and medical knowledge respectively

Appointments.

Successful applicants for vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward to THE LANCET *Office directed to the Sub-Editor not later than 9 o clock on the Thursday morning of each week such information for gratuitous publication*

CARLILL, HILDRED M.D Cantab M R.C P Lond temporary Surgeon R.N from H M S New Zealand has been appointed Neurologist to the Royal Naval Hospital Haslar

MAYSTON J H M.R C S L.R.C P Lond. has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Hackney District of the county of London.

ERRICK, W J M.B Ch.B Dub has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Castleknock District of the county of Dublin.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index) When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

BOLTON INFIRMARY AND DISPENSARY —Female Second House Surgeon. Salary £200 per annum with apartments board and attendance

BOURNEMOUTH ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months Salary £150 per annum and extras with board lodging and washing

BRADFORD CITY OF —Temporary Female Medical Officer Salary 8 guineas per week.

BRISTOL GENERAL HOSPITAL.—Casualty House Surgeon for six months or three months Salary at rate of £175 per annum with board residence &c

BRISTOL ROYAL INFIRMARY —House Physicians and House Surgeons Salary at rate of £120 per annum with board apartments and laundry

BURNLEY VICTORIA HOSPITAL.—House Surgeon Salary £160 per annum, with residence board and washing

BURY INFIRMARY —Junior House Surgeon. Salary £150 per annum with board residence and washing

DOUGLAS ISLE OF MAN ASYLUMS BOARD —Medical Superintendent of Isle of Man Lunatic Asylum and Medical Officer of Home for Poor Residence with fuel light, and water provided

DUDLEY GUEST HOSPITAL.—Assistant House Surgeon for six months Salary £120 per annum, with residence board, and washing

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon Salary £150 per annum, with board, residence and laundry

LEEDS PUBLIC DISPENSARY —Female Resident Medical Officer Salary £130 per annum with board residence and laundry

LONDON FEVER HOSPITAL, Liverpool road N —Assistant Resident Medical Officer Salary £200 per annum with residence and board

MANCHESTER, COUNTY ASYLUM Prestwich.—Locum Tenens Salary as arranged

NORTHAMPTON GENERAL HOSPITAL.—Two House Surgeons. Salary £150 per annum each with apartments board washing and attendance

NORTHAMPTONSHIRE WAR HOSPITAL, Duston Northampton.—Pathologist and Bacteriologist also Radiographer Salary £1 per day with board. lodging &c.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road N W —Female Assistant Resident Medical Officer for four months. Salary at rate of £60 per annum with board residence and washing

QUEEN'S HOSPITAL FOR CHILDREN Hackney road, Bethnal Green E —House Surgeons for six months Salary £100 per annum with board, residence and washing

ROCHESTER, KENT ST BARTHOLOMEW'S HOSPITAL.—Senior Resident House Surgeon. Salary as arranged

SHEFFIELD CITY HOSPITALS FOR INFECTIOUS DISEASES —Assistant Medical Officer at Lodge Moor Hospital Salary £225 per annum with apartments, rations laundry and attendance.

SHEFFIELD ROYAL INFIRMARY —House Surgeon. Salary £100 per annum with board and residence.

SITTINGBOURNE. NORTH EAST KENT JOINT COMMITTEE.—Temporary Assistant Medical Officer of Health.

SOUTH SHIELDS INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY —House Surgeon. Salary £150 per annum with residence board and washing

SUNDERLAND ROYAL INFIRMARY —Female House Surgeon Salary £150 per annum with board residence, and laundry

UNIVERSITY OF LONDON —External Examiners

WINDSOR. KING EDWARD VII HOSPITAL.—House Surgeon

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL. —Resident Medical Officer or House Surgeon for six months. Salary at rate of £150 per annum with board, rooms and laundry

THE CHIEF INSPECTOR OF FACTORIES Home Office London S W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Charlestown in the county of Mayo and at Harrow in the county of Middlesex

Births, Marriages, and Deaths.

BIRTHS

CLINE.—On Feb 24th at Devonshire House London road Portsmouth to Dr Eric Cline and Mrs. Eric Cline (née Constance De Vere Wheeler) a son

LEA —On Feb 25th at Inglewood Denmark Hill the wife of Captain E. T H Lea, R.A.M C of a son

MILBURN —On Feb 12th at Biggleswade, Beds the wife of Lieutenant O L. Milburn R A.M C of a son

TINNE.—On Feb 22nd at Oak Cottage, Grassendale Liverpool the wife of Dr P F Tinne, of a daughter

WHITE.—On Feb 22nd at West Knoll Bournemouth, the wife of Edward How White, M B Oxon. of a son

MARRIAGES

HARNETT—PERIGAL.—On Feb 23rd at Holy Trinity Church New Barnet, W George Harnett, M.D Dub R.A.M C to Edith de St Leu younger daughter of Dr and Mrs Perigal of New Barnet

MEYER—STIRLING —On Feb 23rd at St George's, Hanover-square W W O B Meyer F R C S Edin Captain R.A.M C (S R.) to Alice Elizabeth daughter of Mr and Mrs Alexander Stirling of Perth

SMALLMAN—DUNCAN —On Feb 29th at Christ Church Paddington Major A. Briton Smallman D S O R.A.M.C to Alice Florence daughter of Mr and Mrs R G Duncan of Lindens Farnborough Hants

STEVEN—FRASER —On Feb 23rd at St. Andrew's Church Ealing Fraser Steven M B D S O Captain, R.A.M.C to Gladys, only daughter of the late Major and Mrs. Fraser of West Ealing

WARD—GRAHAM —On Feb 17th at the Church of St John the Baptist, Crowthorne Espine Francis Ward M.D West African Medical Staff to Mary Theresa youngest daughter of the late Major-General John Gordon Graham 1st Royal Dragoons of Mossknow and Wyseby Dumfriesshire

DEATHS

BARBER.—On Feb 19th suddenly at Ramsgate Dr James White Barber L.R.C P & S Edin. L F P S Glasg aged 53 years.

HOOD —On Feb 19th at 33 Casualty Clearing Station B E F., of wounds received on the 15th George Christie, aged 21 years Lance-Corporal 16th Middlesex (Public Schools Battalion) only son of T A. F Hood M B Ivybank, Blairgowrie.

KEOWN —On Feb 26th, at Windsor-road Ealing W , David Boyd Keown, M R.C S L.R C P Lond aged 50 years

PATTISON —On Feb 22nd at a nursing home Lieutenant Peterswald Pattison R.A M C younger son of the late Gilchrist Gray Pattison of Edinburgh

WILLS —On Feb 28th at Bexhill-on-Sea, Joseph Pearce Wills, M D Durh aged 63 years.

N B —A fee of 5s is charged for the Insertion of Notices of Births Marriages and Deaths

BOOKS, ETC , RECEIVED

ALLEN GEORGE, AND UNWIN LIMITED London.
War and Civilisation By the Right Hon J M Robertson, M P Price 2s 6d net.

BAILLIÈRE, J B ET FILS. Paris
Nouveau Traité de Chirurgie publié sous la direction des professeurs Le Dentu et Delbet. Vient de Paraître : Maladies des Organes Génitaux de l Homme Par P Sebileau et P Descomps Paris Price 15 fr

CAMBRIDGE UNIVERSITY PRESS London and Edinburgh.
Physical Chemistry for Schools By Henry John Horstman Fenton, M.A. Sc.D F R.S Price 3s 6d net

CHAPMAN AND HALL, London. **WILEY JOHN** New York.
Water Purification Plants, and their Operation. By Milton F Stein, Assoc Mem Am. Soc. C E Price 10s 6d net.

CONSTABLE AND CO LIMITED London.
Chemical Constitution and Physiological Action. By Professor Dr Leopold Spiegel (Berlin) Translated, with additions from the German by C Luedeking (Leipsic) and A. C Boylston (Harvard) Price 5s net.

HILL PUBLISHING CO 6 and 8, Bouverie-street, E C and New York.
American Sewage Practice Vol III Disposal of Sewage By Leonard Metcalf and Harrison P Eddy Price 25s net.

KEGAN PAUL, TRENCH TRÜBNER AND CO London
Organic Chemistry or Chemistry of the Carbon Compounds By Victor von Richter Edited by Professor R Anschütz and Professor G Schroeter Vol I Chemistry of the Alepatic Series. Newly translated and revised from the German edition (after Professor E F Smith s third American edition) by Percy E. Spielmann Ph D B Sc. F I C A.R C Sc Price 21s net.

KIMPTON HENRY London and Glasgow
Notes on Military Orthopædics By Paul Bernard Roth M.B F.R.C S., Captain R.A.M C (S.R.) Price 1s net.

LEA AND FEBIGER Philadelphia and New York
An Autobiography By Edward Livingston Trudeau M.D

LIVINGSTONE, E AND S Edinburgh.
Back Injuries and their Significance under the Workmen s Compensation and other Acts By Archibald McKendrick F R C S E Price 2s 6d net

UNIVERSITY OF CHICAGO PRESS (Published in the United Kingdom by the CAMBRIDGE UNIVERSITY PRESS, Fetter-lane E C)
Senescence and Rejuvenescence. By Charles Manning Child. Price $4 net

WILLOWS' MAGAZINE CO Kansas City
Nitro by Hypo By Edwin P Haworth Superintendent of the Willows Maternity Sanatorium Price $1.

The following magazines, journals, &c., have been received —Pacific Medical Journal, Saint Paul Medical Journal Journal of Tropical Medicine and Hygiene Proceedings of the Medical Association of the Isthmian Canal Zone Review of Neurology and Psychiatry Journal of Nervous and Mental Diseases, Revue d'Hygiène, Revue de Chirurgie Revue de Médecine, Annales de Médecine, Archives of Internal Medicine, Revista Médica del Uruguay Medical Officer Practitioner Prescriber &c.

Notes, Short Comments, and Answers to Correspondents.

TWO TYPES OF WAR-TIME INSANITY

IN the 103rd annual report for the year 1915 of the Royal Edinburgh Mental Hospital at Morningside Dr G M Robertson states that during the year about 30 officers and soldiers were admitted, the great majority of whom had not been to the front He continues "There were two types of insanity which, however stood out prominently among these admissions There was first a considerable number of cases of simple mental excitement or mania It would appear that in these cases the excitement produced by their new environment and military duties, and the high tension under which they lived, had over stepped the normal They were perfectly lucid in intellect, but very exalted in feeling They over estimated their own importance, bragged of their doings, and talked too much There was definite loss of self control, and it was owing to childish and foolish conduct that they got into difficulties They gave us a great deal of trouble in the earlier periods of their treatment, but they all made good recoveries They constantly suggested to me exaggerated types of Rudyard Kipling's soldiers The second group of cases consisted of high grade mental defectives These men had passed the physical tests when they enlisted, and had answered the few questions addressed to them without displaying their mental deficiency It was very soon found, however, that owing to their low level of intelligence they were quite unfit to be trained as soldiers or to realise their responsibilities Had the Mental Deficiency Act been in force for some years, no doubt they would all have been known to the authorities"

THE MIDWIVES ACT (1911) IN TASMANIA.

WE learn from Dr Arthur H Clarke's annual report for 1914–15 to the Public Health Department of Tasmania that the Midwives Act (1911) came into operation on Jan 1st, 1912 and that regulations prescribing the subjects of examination for candidates and giving the control of the conduct of examinations to the Medical Council of Tasmania were issued on June 25th, 1914 The midwifery certificates of seven British and 11 Australian institutions are recognised and approved by the council Up to June 30th, 1915, only 284 midwives out of 575 on the register took out annual certificates entitling them to practise as midwives during the currency of the certificate During the period under review 28 additional names were placed on the register Of these, 69 reside in Hobart, 46 in Launceston, and not more than 12 each in other towns and districts As in past years, it has been necessary to institute police-court proceedings in certain cases where women were found to be practising in contravention of the Act Such women enter into unfair competition with the registered midwife and are a menace to the community The department has spared no effort to bring these persons within the arm of the law, and in this connexion has received able assistance from the officers of police

MUSTARD WITH FISH

WE observe that a well known firm of mustard manufacturers has now started to advertise the benefit or appetising qualities of eating mustard with fish The advertisement runs "But try it with a touch of mustard, especially with fish rich in fat Mustard enables you to digest more of your food than you would without it" In this country the only fish habitually eaten with mustard is herring, but many who, although surprised at the notion, have been induced to try mustard with other fish have soon established the habit Mustard is a cheap sauce, and mustard with vinegar is a very sensible mixture as the vinegar counteracts some of the pungent effects of the oils in the mustard It is interesting to remember the etymology of mustard from the old French moustarde derived from the Latin "*mustum ardens*," or hot must, the must being the verjuice or juice of green grapes or fruit mixed with the mustard

A GUIDE TO THE LEARNED SOCIETIES

THE Yearbook of Scientific and Learned Societies of Great Britain and Ireland 1915 (session 1914–15), is a valuable guide to the work done in science, literature and art during the year, while it also contains information with regard to officers, dates of meeting, membership, fees, publications and so forth The present annual issue, the thirty second, devotes 66 pages to general science, 37 pages to medicine, and 48 to biology, which includes microscopy and anthropology, while psychology has five pages The book is compiled from official sources and bears the stamp of accuracy, and the list of papers read and discussed will probably be consulted with increasing frequency as coöperation between science and industry becomes more firmly established The publishers are Messrs Charles Griffin and Co, Limited and the price of the book is 7*s* 6*d* net

Country Practitioner desires some hints regarding the dietetic and postural after treatment of such cases as Sir John Bland Sutton describes in his Hunterian lecture on Ulcers New and Old (see THE LANCET, Feb 19th) and asks whether the lecturer has had any experience of the association between arterio sclerosis and the frequency of these ulcers which he describes

Medical Diary for the ensuing Week

SOCIETIES

ROYAL SOCIETY Burlington House London W
THURSDAY —Papers:—Prof J W Nicholson and Mr T R. Merton: On the Distribution of Intensity in Broadened Spectrum Lines (communicated by Prof A. Fowler) —Prof H C Plummer: On Prof Joly's Method of avoiding Collision at Sea (communicated by Prof J Joly)

ROYAL SOCIETY OF MEDICINE 1, Wimpole-street. W

Wednesday March 8th.

OCCASIONAL LECTURE (the President of the Society in the chair):

Dr Leonard S Dudgeon will deliver a Lecture on
Personal Experiences on the Gallipoli Peninsula and Eastern Mediterranean while a Member of the War Office Committee for Epidemic Diseases and Sanitation"
in the Robert Barnes Hall at 5 P M

Lantern Illustrations

N B —Members of all Sections are invited

Friday, March 10th.

OCCASIONAL LECTURE (the President of the Society in the chair):

Dr M Weinberg (of the Pasteur Institute, Paris) will deliver a Lecture on
Bacteriological and Experimental Researches on Gas Gangrene" (with Epidiascope demonstration, Cultures, &c)
in the Robert Barnes Hall, at 5 P M

N B —Members of all Sections are invited.

MEDICAL SOCIETY OF LONDON 11 Chandos-street, Cavendish square W
MONDAY —9 P M. Lettsomian Lecture:—Major F W Mott: The Effects of High Explosives on the Central Nervous System (Lecture III)

RÖNTGEN SOCIETY Institution of Electrical Engineers, Victoria Embankment, W C
TUESDAY —8 15 P M General Meeting Adjourned Discussion on the Injurious Effects produced by X Rays The following will take part in the discussion:—Dr W H Nutt, Mr G Pearce Mr W E Schall, Dr G B Batten Mr C R. C Lyster Dr Harvey Mr T Clarke, Major Wilson and others Paper:—Mr A. C Gunstone: The Use of Inverse Current.

ROYAL SOCIETY OF ARTS John-street Adelphi W C
WEDNESDAY —4 30 P M, Paper:—Mr C R. Darling: Optical Appliances in Warfare

HUNTERIAN SOCIETY 1 Wimpole-street, W
WEDNESDAY —8 30 P M. Council Meeting 9 P M Paper:—Dr Langdon Brown: A New Treatment of Diabetes Discussion invited.

LECTURES, ADDRESSES DEMONSTRATIONS &c

ROYAL COLLEGE OF PHYSICIANS OF LONDON Pall Mall East
THURSDAY—5 P M. Milroy Lectures:—Dr S G Moore: Infant Mortality and the Relative Practical Values of Measures directed to Protecting Infant Lives (Lecture I)

ROYAL COLLEGE OF SURGEONS OF ENGLAND Lincoln's Inn Fields W C
MONDAY AND WEDNESDAY —5 P M Hunterian Lectures: Prof J E R McDonagh: Links in a Chain of Research on Syphilis

ROYAL COLLEGE OF PHYSICIANS EDINBURGH Hall of the College Nine Queen street.
MONDAY AND FRIDAY 5 P M Morison Lectures —Dr E Bramwell Neurology of the War

POST-GRADUATE COLLEGE West London Hospital, Hammersmith road, W
MONDAY —2 P.M Medical and Surgical Clinics X Rays Mr Gray: Operations Mr B Harman: Diseases of the Eye Dr Simson: Diseases of Women.
TUESDAY —2 P M Medical and Surgical Clinics X Rays Mr Addison: Operations Dr Banks Davis: Diseases of the Throat, Nose and Ear Dr Pernet: Diseases of the Skin.
WEDNESDAY —10 A.M. Dr Saunders Diseases of Children Dr Banks Davis: Operations of the Throat, Nose and Ear 2 P M., Medical and Surgical Clinics X Rays Mr Pardoe: Operations. Dr Simson: Diseases of Women.
THURSDAY —2 P.M. Medical and Surgical Clinics X Rays Mr Gray: Operations Mr B Harman: Diseases of the Eye.
FRIDAY —10 A.M Dr Simson Gynæcological Operations 2 P M, Medical and Surgical Clinics. X Rays Mr Addison Operations. Dr Banks Davis: Diseases of the Throat, Nose, and Ear Dr Pernet: Diseases of the Skin

SATURDAY —10 A.M. Dr Saunders: Diseases of Children. Dr Banks Davis Operations of the Throat, Nose, and Ear Mr B Harman: Eye Operations 2 P M Medical and Surgical Clinics X Rays Mr Pardoe: Operations

NORTH EAST LONDON POST GRADUATE COLLEGE Prince of Wales's General Hospital Tottenham N

MONDAY —Clinics —10.30 A.M Surgical Out-patients (Mr E Gillespie) 2.30 P.M Medical Out patients (Dr T R Whipham): Gynæcological Out patients (Dr Banister) 3 P.M. Medical In patients (Dr R. M Leslie)

TUESDAY —2.30 P.M., Surgical Operations (Mr Carson) Clinics —Medical Out patients (Dr A. G Auld) Surgical Out patients (Mr Howell Evans), Nose Throat and Ear Out patients (Mr C H Hayton) Radiography (Dr Metcalfe) 3.30 P.M Medical In-patients (Dr A. J Whiting)

WEDNESDAY —Clinics —2.30 P.M Throat Operations (Mr C H Hayton) Children Out patients (Dr T R. Whipham) Eye Out-patients (Mr R P Brooks) Skin Out-patients (Dr H W Barber) 5.30 P.M. Eye Operations (Mr R P Brooks)

THURSDAY —2.30 P.M, Gynæcological Operations (Dr A. E. Giles) Clinics —Medical Out patients (Dr A. J Whiting) Surgical Out patients (Mr Carson) Radiography (Dr Metcalfe) 3 P.M. Medical In patients (Dr R M Leslie)

FRIDAY —2.30 P M Surgical Operations (Mr Howell Evans) Clinics:—Medical Out-patients (Dr A. G Auld) Surgical Out-patients (Mr E Gillespie): Eye Out-patients (Mr R P Brooks)

THE THROAT HOSPITAL, Golden square. W

MONDAY —5.15 P M Special Demonstration of Selected Cases

THURSDAY —5 15 P.M. Clinical Lecture

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN 49 Leicester-square W C

TUESDAY —6 P.M. Dr K. Sibley Ionisation Electrolysis

For further particulars of the above Lectures &c see Advertisement Pages

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession may be sent direct to this office

Lectures original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed " To the Sub Editor "

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed " To the Manager*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title-page to Vol. II of 1915 were given in THE LANCET of Dec. 25th, 1915

VOLUMES AND CASES

VOLUMES for the second half of the year 1915 are now ready Bound in cloth gilt lettered, price 16*s* carriage extra.

Cases for binding the half year's numbers are now ready Cloth, gilt lettered price 2*s* by post 2*s* 4*d*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423 Strand London W C, are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c. should be sent to the Agent to whom the subscription is paid, and not to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world

ALTERATION OF INLAND SUBSCRIPTION RATES

OWING to the alteration in the Inland Newspaper Postal rate, the postage on each copy of THE LANCET will in future be 1*d*, and sometimes 1½*d*

The revised Inland Subscription rates are —

One Year	£1	3	3
Six Months	0	13	8
Three Months	0	7	0

The rates for the Colonies and Abroad (thin paper edition) will be as usual —

One Year	£1	5	0
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Three Months	0	7	0

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager Mr CHARLES GOOD THE LANCET Offices, 423, Strand London, W C

TO COLONIAL AND FOREIGN SUBSCRIBERS

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied

NEWSPAPERS FOR NEUTRAL COUNTRIES

THE Secretary of the War Office has issued the following order —

> The public are informed that on and after Saturday, November 6th, newspapers, magazines, books, and other printed publications (other than trade circulars) will not be sent forward to neutral European countries unless posted direct from the office of publishers or newsagents who have obtained permission from the War Office for this purpose Persons desiring to send newspapers, &c, to neutral European countries should, therefore, give their orders for execution to publishers or newsagents who have obtained such permission.

The Publisher of THE LANCET has obtained the required permission of the War Office, and he will forward copies direct from the Office to any neutral country on receipt of instructions

ADVERTISEMENT RATES

Books and Publications Official and General Announcements Trade and Miscellaneous Advertisements and Situations Vacant	Five lines and under	4*s* 0*d*

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Quarter Page £1 10*s* Half a Page, £2 15*s*

Entire Page £5 5*s*

Special terms for Position Pages

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office March 1st 1916

Date	Barometer reduced to Sea Level and 32°F	Direction of Wind	Rain-fall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb.	Dry Bulb	Remarks
Feb 24	29·776	N E	0·09	36	35	32	32	32	Snowing
„ 25	29·750	N E	0·12	63	35	23	—	30	Overcast
„ 26	29·610	E	0·35	45	34	30	32	34	Cloudy
„ 27	29·320	N E	0·29	63	33	34	33	35	Overcast
„ 28	29·554	S W		59	42	34	34	34	Cloudy
„ 29	29·304	S W	0·39	73	46	34	36	39	Cloudy
Mar 1	29·234	S W	0·05	73	45	39	39	40	Raining

Communications, Letters, &c., have been received from—

A.—Messrs Allen and Hanburys, Lond., Dr A. Ashkenny Basingstoke Apothecaries Hall of Ireland Dublin Registrar of

B—Dr John Brown, Glasgow British Drug Houses Lond Mr E Bougault, Paris; Messrs W H Bailey and Son Lond. Dr H. Boshouwers Valparaiso Messrs Butterworth and Co Lond Boots Pure Drug Co Nottingham Messrs F P Baker and Co, Lond. Board of Agriculture and Fisheries Lond, Secretary of Captain H W Bayly R.A.M.C Uckfield Mr T Bates sen, Worcester Dr G P Boddie, Edinburgh Mr W H Battle Lond Major C Brodribb Secunderabad Lance-Corporal E J Bland R.A.M.C Aylsham

C—Mr R Creasy Windlesham Messrs E Cook and Co Lond Messrs Crossley and Co Lond County Asylum, Prestwich, Superintendent of Messrs Casein, Ltd. Lond. Captain C Clarke, R.A.M.C M E F; Messrs J and A. Churchill, Lond. Lieutenant Wm Campbell, R.A.M.C, Alexandria Mr H A. Collins, Croydon; Dr Edgar F Cyriax Lond Dr H Warren Crowe Devonport Mr Bernard Cridland Wolverhampton Country Practitioner Lieutenant G W Christie R A.M C Captain Donald E Core R.A.M.C (T) Dr W F Croll, Aberdeen.

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E.—Mr L. E Evans Cobham Messrs. W and T Evans Cork Dr G N Edmondson Newcastle Messrs. Eleftheroudakis and Barth, Athens E C H Dr F W Edridge Green, Lond. Dr William Ewart, Lond

F—Dr R. Fortescue Fox, Lond. Dr J Freeman, Lond. Factories Chief Inspector of Lond. Messrs Fletcher Fletcher and Co, Lond.; Messrs Fairchild Bros and Foster Lond., F T R.

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K.—Mr H Kimpton, Lond. King Edward VII Hospital Windsor Secretary of Mr D W Kemp, Leith

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M.—Dr F C Martley, Lond. Ministry of Munitions, Lond. Captain R. MacGregor, France Maltine Manufacturing Co, Lond. Modern Hospital Publishing Co St Louis, Mo, President of; Surgeon J H. B Martin, R N, Sleaford Messrs C Mitchell and Co Lond. Mr J Mackay Giffnock; Messrs J Menzies and Co, Edinburgh; Dr J A. Menzies Folkestone Medical Research Committee, Lond.; Maruzen Co, Tokyo; Dr F C Madden Cairo Mysore Government Bangalore Senior Surgeon to the Mr I. Meller Lond Mental After Care Association, Lond. Secretary of Mr W G McDowell Lond. Dr R. Foster Moore Lond. Mr J Y W MacAlister Lond Mr J E R McDonagh Lond. Dr E MacGowan Lond.

N—National Association for the Feeble-Minded Lond, Secretary of North Devon Infirmary, Barnstaple, Secretary of; N, Barnes National Health Insurance Commission (England) Solicitor's Department, Lond.

O—Dr C O Gorman, Bristol; Ospedale Maggiore Cremona Inspector of.

P—Messrs W J Parrett, Sittingbourne Post-Graduate College, Hammersmith. Secretary of Lieutenant-Colonel D N Parakh I M S Poona Captain H. M. Pierpoint, I M S Port Said.

Q—Queensland, Commissioner of Public Health for Brisbane

R—Mr T H. Rushton, Grimsby Dr J N Richardson Bessbrook Messrs. G Robertson and Co Lond; Mr J F Rey Bognor Royal Edinburgh Mental Hospital, Morningside Royal Institution of Great Britain Lond. Royal Free Hospital Lond., Secretary of; Captain J Race C A.H C Ottawa; Dr Henry Rundle, Southsea.

S—Dr Eleanor Shepheard, Lond; Sanitary Publishing Co Lond. Mr B H. Sormani Amsterdam Stern Sonneborn Oil Co Lond. Mr A. N Sen Kandi Captain Herbert Smith R.A.M.C, France Messrs A. Schonfield and Co, Glasgow; Mr H Samson, Lond. Society of Apothecaries of London Secretary of Mr Harold Spence Lond. Staffordshire County Council Education Committee Director of Stafford Southport Infirmary Secretary of Shakespeare Festival of Mercy Lond, Hon. Secretary of Professor J Lorrain Smith Edinburgh; Messrs W H Smith and Son, Lond. Salford Royal Hospital Secretary of

T—Mr E Hastings Tweedy Dublin; Miss R. Turner Lon Dr John Tatham Old Orte Mr J Thin, Edinburgh

V—Victoria Hospital Burnle Secretary of Dr B Ran Vickers Wuchow

W—Mr R L. Wason Cleved Messrs Wm. Whiteley Lond Messrs Jas Willing Lond Messrs. Ernest Webb and Beyno Lond. Rev W E. Wall, Cardif Mr G A. Wright, Manchester Dr Helen Wilson Sheffi Lieutenant-Colonel W H Willcox R A.M C

Letters, each with enclosure, are also acknowledged from—

A.—Ardath Tobacco Co Lond Dr H J Alford Taunton Mr E Arnold Lond. A. F C Ancoats Hospital Manchester Secretary of

B—Mr C O Bastian Lond. Mr A. E Bartrum Bewdley; Mr H Butterfield Northampton; Mr H. A. Burridge, Lond; Dr D Buxton Lond.; Captain A. W Byrne R.A.M C, France Mr J Barlow Glasgow Mr A. Bernard, Lond. Dr A. Brown Lond Dr W G Rendle, Abingdon Dr G Booth, Chesterfield Captain J A. Bennett R.A M C Southsea Miss V Brown Lond. Mr E Bland Aylsham Mr C Boulangé, Paris Messrs J S Broadbent and Co Douglas

C—Dr C Clarke Hereford Messrs J and A. Carter Lond.; County Asylum Whittingham, Clerk to the C C B Chester Royal Infirmary Secretary of; Dr Alice Corthorn Lond. C H Croydon Corporation, Accountant to the The Coppice Nottingham.

D—Lieutenant C W J Dunlop R.A.M.C Dover Lieutenant C R. Denny R.A.M C France; Mr H R Dunville Lond. Derbyshire Hospital for Sick Children Derby Secretary of

E.—Mr E Evans Felinfach Mrs Edmunds Lond.; E W S

F—Dr P J Freyer Lond.; Mr J C R Freeborn, Oxford

G—Gravesend Hospital, Secretary of; G C H. Miss Goffe Lond.

H.—Mr J Heywood Manchester Mr G W Homan Lichfield Dr A Howell Cardiff Lieutenant Hutton R.A.M C France; H S Mr A. Harrison Hall Birmingham Messrs. C Hearson and Co Lond.; Mr R Hitchens Lond.

I.—Lieutenant A. C Inman R.A.M C, Lond. Miss Ivens France.

J—Rev R. J Jones Aberdare; Rev R. E Jones Aberdare J L D, J H W

K.—King Edward VII Sanatorium Midhurst, Secretary of; K. D M

L.—Mr T S Logan Stone Sir H. B Longhurst Hampton Hill Liverpool Stanley Hospital Secretary of

M.—Mrs Mallard Ilkley Captain J J Magner R.A.H C Egypt Mr D G Mcnair Blairgowrie Dr A. A. Matheson Edinburgh; Dr A. F Miller Kentville Nova Scotia

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The Lettsomian Lectures

ON

THE EFFECTS OF HIGH EXPLOSIVES UPON THE CENTRAL NERVOUS SYSTEM

Delivered before the Medical Society of London

By FRED W MOTT, M D Lond , F R C P Lond , Hon LL D Edin , F R S ,

MAJOR, R.A.M C (T) 4TH LONDON GENERAL HOSPITAL PATHOLOGIST TO THE LONDON COUNTY COUNCIL ASYLUMS

LECTURE III[1]

(*Delivered on March 6th*)

Mr President and Gentlemen,—In my first lecture I dealt especially with the factors that are held responsible for the various functional neuroses and psychoses occasioned by the physical forces generated by high explosives, and in my last lecture I dealt with the possibility of noxious gases playing an important part in the production of severe symptoms in cases of shell shock with burial in which there was no visible injury I also brought forward statistical evidence to show that an inborn or acquired neurotic disposition was a very important factor in promoting the onset of a neurosis or psychosis and in determining the duration and severity of the symptoms

The varying groups of signs and symptoms indicative of loss of functions or disorder of functions of the central nervous system arising from exposure to forces generated by the detonation of high explosives are classed under the term "shell shock" In a large number of cases, although exhibiting no visible injury "shell shock" is accompanied by "burial"

Symptoms

From the point of view of compensation or pension the War Office authorities very properly regard "shell shock as a definite injury, although there may be no visible sign of it This fact is of considerable importance, for as in the case of pension or compensation for traumatic neurasthenia under the Employer s Liability Act, the notion of never recovering may become a *fixed idea* The detection of conscious fraud is not easy in many cases of "shell shock' in which recovery might reasonably have been expected, for it is difficult in many cases to differentiate malingering from a functional neurosis due to a fixed idea The first point is to be sure of your diagnosis that the disease is altogether functional, and being satisfied thereof to avoid all forms of suggestion of the possibility of non recovery A very great difficulty in the complete investigation of these cases arises from the fact that few or no notes, as a general rule, accompany the patients, one has therefore to rely upon the statements made by the patient himself, or perchance of a comrade, if he has no recollection of the events that happened Most of the cases of shell shock, however, are able to give satisfactory information of the events that preceded the shock, they even tell you they can call to mind the sound of the shell coming and see it, in the mind s eye, before it exploded, then there is a blank in the memory of variable duration In some of the more severe cases, especially where there has been burial or physical concussion by a stone or a sandbag, or by falling heavily on the ground after being blown up in the air, there is a more or less complete retrograde amnesia of variable length of time In a case of simple shell shock it is impossible to say whether the patient was unconscious during the whole period of time of which he has lost all recollection of the events that happened, or whether during the whole or a part of the time he was conscious, but owing to the "commotio cerebri" the chain of perceptual experiences were not fixed In the majority of cases "shell shock" affects only the higher cortical centres, in severe cases the vital centres, as in apoplexy, alone continue to function or the patient is only in a dazed condition, and he may automatically perform complex sensori motor purposive actions of which he has no recollection whatever Several cases of this kind have come under my notice, but I will describe only one of the most reliable, as it is a history obtained from an officer

His company had dug themselves in in a wood, he went out into the road to see if a convoy was coming, when a large shell burst near him It was about 2 o'clock in the morning and quite dark, about 4 30 A.M it was quite light, and he found himself being helped off a horse by two women who came out of a farmhouse He had no recollection of anything that happened between the bursting of the shell and this incident It is interesting to note that it is possible for him to have inhaled noxious gases, for the single cigarette in a metal case that was in his breast pocket was yellow on one side due, no doubt, to picric acid contained in the explosive

All degrees of effects on consciousness may be met with, from a slight temporary disturbance to complete unconsciousness, with stertorous breathing continuing till death Occasionally cases have been admitted under my care at the 4th London General Hospital who had not yet recovered normal consciousness, and for some days were in a dazed, somnolent, or even semi conscious condition Usually these cases came at a time when large convoys were sent from the front owing to a recent engagement The histories of cases sometimes showed that following "shell shock" men occasionally absented themselves and wandering away from the trenches were found in a dazed condition, unable to account for their actions or to recollect how they came there This condition is not unlike a fugue or automatic wandering of an epileptic, and, indeed, in some of these cases there was a history of epilepsy or a predisposition to it, but in others no other cause was ascertainable than the conditions which induced "shell shock."

A young lieutenant was admitted under my care suffering with acute chorea There was no rheumatic history, he had a bruise over the left forehead, he complained of terrifying dreams He remembered nothing that happened between his arrival at Havre and his return to consciousness at the hospital in Boulogne except a vague notion of arms and legs flying in the air, of which he frequently dreamed I ascertained that he had been at Hill 60, battle of Neuve Chapelle His brother had received a letter from him telling him that he was moving to the front but he had no recollection of having written this letter He could recall nothing that happened after his arrival at Havre Reading the newspaper he saw the word Bailleul, he said he was familiar with the name as a place he had been at, but it was merely a word association, for he had no recollection of the place nor of anything that happened there

Now it is a fact that trauma accompanied by horrifying circumstances, causing profound emotional shock and terror, has a much more intense effect on the mind than simple head injury would cause, in spite of the fact that for some time after the injured man may be unable to recall the circumstances The terrifying dreams in this case persisted for months But the only recollection he has of experiences during the period of anterograde and retrograde amnesia was of arms and legs flying in the air, of which he has a vague recollection

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[1] Lectures I and II were published in The Lancet of Feb 12th (p 331) and 26th (p 441) respectively

AMNESIA.

Memory is the storing away of perceptual experiences out of consciousness, and recollection is reviving by will and association the images of those experiences in consciousness Some of these patients after they have recovered from the shock and are convalescent are able to revive in consciousness the events which happened A great psychic feature of "commotio cerebri" from shell shock is the resulting inability of the brain to exercise sustained attention on account of the mental fatigue which occurs, and rest is imposed by the feeling of weariness and various forms of headache or discomfort Again, irresolution and indecision is a frequent result of shell shock, whether induced suddenly or after prolonged exposure to shell fire and the stress of trench warfare This is a serious disability in officers and non commissioned officers placed in positions of responsibility The condition is often aggravated by insomnia, anxiety, and worry, for they are quite conscious of their mental disability and filled with apprehension of making mistakes Commanding officers often show commendable discretion in sending such men home for leave and thus avert a serious nervous breakdown

Loss of memory may be a complete loss of power of recollection and of recognition Consciousness, except for the immediate present perception, may be a blank, and there is in such cases, as a rule, no art to find the mind's complexion in the face, for a patient so afflicted exhibits a dazed, mindless expression. Three cases in particular I will cite as exhibiting this intense form of amnesia

One case was a sapper who upon admission could give no information himself, we learnt from a comrade he had been blown up in a trench He could not recollect his own name, he did not recognise his name when it was written, he did not know the season of the year, he could not recognise any coins except a half-crown, but he possessed this coin which had just been given him He did not recollect anything that was told him, so that his memory for recent events as well as for the past was lost He had a dazed expression, exophthalmos of the right eye, and enlargement of the thyroid, especially of the right lobe This man rapidly improved and recovered completely

Another case was remarkable in several ways

The patient's mind was a complete blank, and this condition was reflected in a dazed, mindless, mask like expression When asked where he lived he said W——, he did not know it was in the West Riding He did not know the address of his home, and when shown a letter from his father with the address on the top he did not recognise it or his father's handwriting When shown a photograph of his home with a group of his father, mother, and three brothers and himself in front of it, he maintained the same wondering, dazed expression, and failed to recognise the nature of the picture His father had heard from a comrade that he had been buried by the explosion of a shell in the trench, he had been unconscious for some time and lost his speech We heard from his father that he was a good musician, and I said to him, "G——, I hear you are a good musician," and I asked him if he could play the piano or sing, there was the same wondering bewildered look, and he muttered something which was to the effect that he could not sing or play Three days later I said, 'Come, you can whistle 'God Save the King'" He took no notice, but upon pressing him he looked up and a glint appeared in his eyes and he said, "You start me" I whistled the first bar, he took it up, and whistled it admirably I then asked him to whistle 'Tipperary," but he could not do it till I started him, and the same with several other tunes, but once started he had no difficulty, and I recognised from the admirable intonation that he was, as his father described him, an excellent musician I could not, however, that day get him to start upon his own initiative any one of the tunes he had whistled The next visit three days later, I observed that his expression had changed He smiled when I spoke to him and I recognised clear evidence of a mind that had partly found itself He could now whistle any of the tunes I had previously started him on by himself when I called for the tunes I then said "Come along to the piano" He came, and I got him to sit down in front of it I said, "Play" He looked at the instrument with a blank expression, as if he had never seen such a thing before, and I could not get him even to put his fingers on the keys I then took one of his hands, and, holding his forefinger, I made him play the melody of "Tipperary" He looked at me and again I noticed a glint in the eye and a change of his blank expression indicative of association and recollective memories He put his other hand on the keys and played a few chords I went away feeling confident that his musical talent would reveal itself He played for half an hour while I was in the ward without a single discord The next time I came he was able to play any music set before him His associative memory and recollection of music was in advance of other associative memories Thus eight months after he had recovered his musical memory he had very imperfectly recovered his memory of elementary facts regarding his profession of a land surveyor—e g, he could not tell me how many poles there were to a rood—and there was still a tendency to a vacant mindless expression and prolonged reaction time as shown by delay and slowness in responding to questions as if there were a difficulty in linking up the necessary associations

This early return of the musical memory happened also in another severe case of amnesia which I will briefly relate

This patient was admitted for shell shock He had almost a complete loss of recollection of all the incidents of his past life except some experiences of early life, such as where he went to school His powers of recognition were limited to knowing his parents He had a bewildered vacant expression and a slow reaction to questions, when interrogated his countenance assumed a puzzled aspect as of one trying to recollect His memory for recent events was absent, and persons that he had frequently or daily seen he failed to recognise After four months he had made but little improvement His memory of the past seemed to show the first signs of awakening in the associations of music He recollected musicians that he had heard and songs that he had sung, although as in the above case he remembered nothing of his professional occupation He said that while with his friends he had been asked to sing songs which they said he had sung before—that he did not recognise them at all when he saw them, that after they had been played to him two or three times he was afraid to begin as he felt he did not know them, but that once he started "he seemed to know without remembering" and got through quite well One song he managed after it had been played through only once (I hear you calling me) I learnt from an officer who had been a school fellow of this patient that he had suffered with a head injury in early life This may have produced a *locus minoris resistentiæ* in his brain

Every state of consciousness which is habitually repeated leaves an organic impression on the brain, by virtue of which that same state may be reproduced more readily at any future time in response to a suggestion fitted to excite it But it may be asked, Why should the memory of music be more readily revived in consciousness than other experiences?—for example, those connected with the professions of these two young men before they entered the army I should explain it by the fact that there can be no doubt that cognitions, whether pleasurable or painful, are more deeply graven on the mind and more firmly fixed in associative memory when associated with intense feeling Music of all the arts appeals most to the emotions, and probably this is the reason why countless men and women, even the uneducated, can recall the words of songs and hymns when they hear the first bar of the musical setting

Fixation and organisation of repeated experiences in the mind is shown in music, for a song that has been sung a number of times only requires the first word or note for it to be continued to the finish without any effort of consciousness, the last note or word uttered serving as the appropriate stimulus of the next, as in an instinct we have what is termed a chain reflex This was strikingly exemplified in a soldier under my care who suffered with motor aphasia and right hemiplegia in consequence of a bullet wound of the brain

The bullet entered the left side of the head and passed through the left fronto-central region of the brain and through the right orbit, destroying the eye, it also in its passage must have cut through the left optic nerve or tract, for he was totally blind. This poor fellow was very cheerful and comprehended all that was said to him, thus, by feeling my tunic sleeve he recognised my rank, for when asked if I was a captain he expressed negation by "oot" colonel also by "oot," meaning "no," and major by 'ah" He obeyed all commands Now, curiously enough, although he was unable to express judgments only by "ah" and "oot, which correspond to yes and no, he was able to sing several songs through without difficulty provided the first word or bar of music was given. Thus, I stood beside him and hummed "'Tis a long way," and immediately he started the well known chorus of "Tipperary," winding up with "Are we downhearted? No!" I then said, "Say Tipperary, Tom" He replied "oot," and he was unable to utter any of the words It must be concluded either that the song had been repeated so often as to have become organised in both halves of the brain or in subcortical lower centres A month later, when I saw him, he was able to walk and speak Thus given a half crown, he felt it, then tried the rim for milling on his teeth, and said, Two shilling bit" When asked again, he corrected it with "Half crown" Given a penny, he tested it in the same way, and the unpleasant taste left in his mouth caused him to throw it down with all the signs of disgust, saying at the same time "Copper"

We know also that in amnesia rhymes are recalled very easily, especially if they have been learnt in early life

PSYCHIC TRAUMA AND THE EFFECTS PRODUCED BY TERRIFYING DREAMS

The frequency with which these cases of shell shock suffer with terrifying dreams at night and in the half waking state points to the conclusion that a psychic trauma is exercising a powerful influence on the mind by the thoughts reverting to the terrifying experiences they have gone through, and their continuous influence on the subconscious mind may account partially for the terrified or vacant look of depression on the face, the cold blue hands, feeble pulse and respiration, sweats and tremors some or all of which signs of fear the severer cases manifest As these dreams cease to disturb sleep, so these manifestations of fear tend to pass off and give place to the sweet unconscious quiet of the mind Occasionally during the waking state contemplation of the horrors seen provokes hallucinations or illusions which may lead to motor delirium or insane conduct At least that is the interpretation I should put upon the symptomatology of the two following illustrative cases —

1 —A captain, aged 20, was admitted under my care in a state of restless motor delirium, he moved continually in the bed, sat up passing his hand across the forehead as if he were witnessing some horrifying sight and muttering to himself yet when interrogated he answered quite rationally This motor delirium I associated with the continuous effects on the conscious and subconscious mind of the terrible experiences he had gone through His whole company had been destroyed, and, while talking to a brother officer the latter had half his head blown off by a piece of a shell The patient improved very much but a relapse occurred after a night disturbed by terrifying dreams He recovered sufficiently in a week to go out

2. *Paroxysmal attacks of maniacal excitement following shell shock* —A young man aged 19 was admitted suffering from shock due to emotional stress and shell fire He suffered with terrifying dreams and after he had been in the hospital a short time he developed sudden paroxysmal attacks of maniacal excitement The first attack occurred suddenly One afternoon he had been helping as usual in the kitchen and then he went and lay down on his bed and apparently went to sleep he suddenly woke with a startled, terrified look became flushed in the face sweated profusely and made for the door as if to get away from some terrifying conditions He was with difficulty restrained He remained in this excited state glaring rapidly from side to side giving one the impression that he was suffering from terrifying hallucinations of sight and hearing although he would make no response to interrogation He did not recognise his wife the doctors, or the sisters Once when I, accompanied by two medical officers in uniform (strangers) came up to speak to him he became violently agitated, as if some terrifying conditions had been aroused by the sight of the uniforms, the face was flushed and he sweated so profusely that the perspiration dripped in a stream off his nose The attacks would last from a few hours to a few days, they came on quite suddenly like an epileptic fit, and often without any apparent cause They became more severe and frequent, and when we had moved the neurasthenic patients to the Grove Lane schools, he one day ran out of the building into the playground and attempted to get over the wall He was brought back, and I saw him sitting in the ward on his bed, his head was buried in his hands I spoke to him, he immediately got up, looked at me in the most terrified manner and made for the door, it required four orderlies to restrain him and he fought and kicked violently, exhibiting great strength and nervous energy Much to my regret I found it necessary to have him sent to Napsbury I have heard that he has made a complete recovery and been discharged It may be mentioned that there was no history of epilepsy or insanity in the family obtainable The case rather suggests the psychic equivalents of epilepsy in the attacks

Fear in its depressing effects upon the mind and body plays a very important part in the production of a neurasthenic condition Constant apprehension and anxiety causing sleeplessness, loss of appetite and power of assimilation, are productive of a mental and bodily state by which the constant danger and fear of death induces terror, and this may in a few instances so profoundly affect some individuals as to turn the hair white in a few days Thus, one patient of mine, a mute, after being ten days in the trenches, found his hair had turned white He was only 26, but there was a family predisposition to early change of the colour of the hair to grey This reminds me of the familiar lines of Byron in the "Prisoner of Chillon" —

My hair is grey, but not with years,
 Nor grew it white in a single night,
As men have grown with sudden fears

We do not know whether his hair turned white in a single night at the sudden emotional shock that made him mute

Terror is contemplative fear, it is fear made more or less permanent by the imagination fixing in the memory past terrifying experiences, repressed in great measure by conscious activity of the mind during the waking state, but evident in the dreams which afflict nearly all these soldiers suffering from "shell shock' and trench warfare Shakespeare has clearly indicated how dreams influence the minds of men and how they are based upon past experiences Thus, Mercutio, in the description of Queen Mab, refers to the soldier's dreams in the following lines, which are as true to day as when Shakespeare wrote them —

Sometime she driveth o'er a soldier's neck,
And then dreams he of cutting foreign throats,
Of breaches, ambuscadoes, Spanish blades,
Of healths five fathom deep and then anon
Drums in his ear at which he starts, and wakes,
And being thus frighted, swears a prayer or two,
And sleeps again

In addition to the revival of experiences of trench warfare, of hearing the shells burst and seeing the flash, of parapets being blown down, of being buried, of charging the enemy, soldiers often complain of a falling or sinking feeling, possibly it is to this that Shakespeare refers in the lines "of healths five fathom deep" Often in their dreams patients are heard to cry out and awaking find themselves in a cold sweat Some officers have been heard to give commands to their men and urge them on to battle Now it does not necessarily follow that these men who cry out or talk in their sleep and who obviously were dreaming can recollect their dreams, in fact, it is not a very uncommon thing for them to say they do not dream, although they say they have awakened with a start and found themselves in a cold sweat, indicating that they had been "thus frighted" A functional case of deaf mutism, who would narrate in writing his terrifying dreams, did not cry out as some mutes do, but systematically in his sleep went through the pantomime of bayoneting the enemy, and even would get out of bed and look under, and of this performance he remembered nothing He did not do this when hypnotised Under an anæsthetic soldiers some times may perform the pantomime of such habitual acts as of raising the gun to the shoulder and pulling the trigger Therefore, when Shakespeare says, "Dreams are born of fantasy, children of an idle brain," he was clearly referring to those dreams in which experiences of the past are so dissociated and linked up in incongruous association as to require careful analysis in order to show their origin. I could cite many instances, but two or three will suffice

An officer who had served in South Africa told me that he had had a dream from which he awoke in a fright He was in a mine passage at the front when he met a leper who came towards him Upon questioning him and asking him if he could recall some period of his life in which his mind had been disturbed by a leper, he remembered that he and his comrades were much alarmed and vigorously protested against a leper being allowed to remain in an adjoining sangar Evidently this had left a deep impression graven on the mind, the principal subject, the leper, was dissociated from concomitant experiences in the South African War, and became linked up with a recent terrifying experience of being in a mine passage, which likely enough was also an experience in which the emotion of fear occurred Both incidents suffused with very strong feeling tone in all probability were deeply graven on the mind and became firmly fixed by subconscious association

A sergeant who had been a schoolmaster was asked to write down his dreams by Captain W Brown, who has charge of my cases at the Maudsley Hospital The first was as follows —

I appeared to be resting on the roadside when a woman (unknown) called me to see her husband's (a comrade) body which was about to be buried I went to a field in which was a pit, and near the edge four or five dead bodies In a hand-cart near by was a *legless body*, the head of which was hidden from sight by a slab of stone (He had seen a *legless body* which was covered with a mackintosh sheet which he removed) On moving the stone I found the body alive, and the head spoke to me imploring me to see that it was not buried Burial party arrived, and I was myself about to be buried with legless body when I awoke

The second dream was as follows —

After spending an evening with a brother (dead 11 years ago) I was making my way home when a violent storm compelled me to take shelter in a kind of culvert, which latter turned into a quarry situated between two houses Men were doing blasting operations in the quarry and whilst watching them I saw great upheavals of rock and eventually the building all around collapsed (explosion of a mine) Amongst the débris were several mutilated bodies, the most prominent of which was *legless* I tried to proceed to the body, but found that I myself was pinned down by masonry which had fallen on top of me As I struggled to get free the whole scene appeared to change to a huge fire, everything being enveloped in flames, and through the flames I could still see the *legless body* which now bore the *head of my wife* who was calling for me I was struggling to get free when *my mother* seemed to be coming to my assistance, and I awoke to find the nurses and orderlies standing over me

It appears that the patient had been shouting in his sleep, beginning in a low voice and gradually becoming louder until eventually he was shrieking The *legless body* occurred in all his dreams, the sight of this had evidently produced a profound emotional shock He had worried a great deal about his wife who was much younger than himself, so that we have this incongruous association of the *legless body* and the *head* of his wife calling him, finally who more natural than *the mother* to come to his help The emotional complex is not incongruous in this dream, for fear is linked up with the tender emotion

SPEECH DEFECTS

Various forms of speech defects are common, they are mutism, aphonia, stammering, stuttering, and verbal repetition The most frequent speech defect is mutism About 1 in 20 of those admitted with a history of shock due to high explosives and having no visible signs of injury, suffer with mutism, but nevertheless are quite able, as a general rule, to write a lucid account of their experience Most of the men so afflicted are unable to whisper or produce any audible sound, thus there is no sound when they laugh They are unable to whistle or to cough, and in severe cases there is difficulty of putting out the tongue and, in one case, of swallowing About 35 cases of mutism have come under my observation, they have with one exception all recovered Two very severe cases of "shell shock" which occurred in May, 1915, have only quite recently recovered their speech The one that has not yet recovered, in spite of hypnotic suggestion, has not been affected more than a few months, so that it may be expected that he will recover

Why should these men, whose silent thoughts are perfect, be unable to speak? They comprehend all that is said to them unless they are deaf, but it is quite clear that in these cases their internal language is unaffected, for they are able to express their thoughts and judgments perfectly well by writing even if they are deaf The mutism is therefore not due to an intellectual defect, nor is it due to volitional inhibition of language in silent thought. Hearing, the primary incitation to vocalisation and speech, is usually unaffected, yet they are unable to speak, they cannot even whisper, cough, whistle or laugh aloud Many who are unable to speak voluntarily yet call out in their dreams expressions they have used in trench warfare and battle Some times this is followed by return of speech, but more often not One man continually shouted out in his sleep, but he did not recover voluntary speech till enjoying the festivities of singing the old year out and the new year in, eight months after he suffered the shock It was thought that his loss of speech might be connected with adenoids, and he was told that if these were removed under an anæsthetic he would certainly be cured, but in spite of the strong suggestion he did not recover his speech In another case of a severe character the larynx was faradised, but it made no difference, in fact, it did harm, as it increased the emotional condition The sudden and varied manner in which these mutes recover their power of articulate speech and phonation is indicative of a refractory condition of the voluntary cortical mechanism of phonation In some cases there is a history of a blow on the chest—e g, from a sandbag or of being buried and partially asphyxiated—and it is usual for the loss of speech to occur at the time of the shock One patient, however, gave a history of difficult speech for two days after the shock, he lost his speech completely only after his vestibular reactions had been tested while another, who after the same investigation became a deaf mute, recovered his speech upon hearing a man in the hospital say the word ' Rose ' He at once sat up and repeated the word, proving as he said, "I could both speak and hear Some of the earlier and more severe cases of shock followed by mutism were unable to expire forcibly enough to cough, to whistle, or to blow out a candle, but the less severe may be able to perform these acts and yet be unable to speak or whisper The latter cases recover usually more quickly than the former, but sudden recovery may occur even in the severe cases Thus a private who went to France October, 1914, on August 9th, 1915, was going to pick up a wounded comrade when a shell came and blew the wounded man to pieces, and he knew no more till about half an hour later, when he found himself deaf and dumb There evidently were two factors in the production of the symptoms—the physical and the psychical—and of the two the emotional shock was probably the greater This patient was admitted under my care Some weeks later his fellow soldiers thought he ought to hear and speak, and they adopted energetic measures to make him shout out for help Two of them leathered him with a slipper and then nearly throttled him. He struggled and shouted "stop it" Another man dreamt he was falling over a cliff, shouted out, and recovered his speech Another dreamt he was blown up by a trench mortar and shouted for help Finding himself speaking he continued to speak aloud, and did not go to sleep again for fear he might lose his speech. Another man, a deaf mute, was heard to speak in his sleep He was told by a comrade He said, "I don't believe it" Some have suddenly recovered their speech by crying out when unexpectedly feeling physical or mental pain, for example, one man cried out when some boiling tea was spilt over him, another when he was held down and his feet tickled In most cases it is the sudden and unexpected which restores the function of the vocal mechanism. Thus a mute sergeant saw some soldiers larking in a punt and he suddenly shouted out, "You will be over" Occasionally the stimulus of a well known chorus has broken down the refractory condition in the psychic mechanism of the voice and the mute has surprised himself and others by finding himself singing The recovery of speech may in some cases be only whispered speech —that is, aphasia supervenes In other cases mutism is followed by stammering or stuttering Such cases are often found on inquiry to have stammered, stuttered, or suffered with a hesitant speech at some time in their life prior to the shock In a few cases such a speech defect seems to have definitely originated as a result of the shock This mutism is due to emotional shock, it is a psychic rather than physical trauma in my judgment, for it in no way differs from the description of hysterical mutism thus described by Bastian Some of the leading peculiarities of hysterical mutism are these Its onset is very sudden, and often after a fright or some strong emotional disturbance Sometimes it follows an hysterical seizure, either with or without paralysis of limbs At other times it occurs without assignable cause, or it may be induced, as already stated, in some hypnotised persons by suggestion The subjects of this disability are completely mute, presenting in this latter respect a notable contrast to ordinary aphasia, who so frequently make use of recurring utterances or articulate sounds of some kind The intellect seems unimpaired, and they are able freely to express their thoughts by writing Though the common movements of the lips, tongue, and palate are preserved, these parts (constituting the oral mechanism) are unable to act in the particular combinations needful for speech movements, in association with the other combinations of muscular action pertaining to the vocal mechanism

Bastian* notes also that there may be more or less complete anæsthesia of the pharynx in hysterical mutism, this I have observed in some of the mutes He notes that as in these soldier mutes hysterics may recover their speech suddenly as a result of a strong emotion, also as in the soldiers, recovery may be followed by stammering or stuttering

Bastian refers to a case in which frequently recurring attacks of mutism were generally associated with blindness or deafness, one or both These conditions are also observed associated with mutism in soldiers, the subjects of shell shock He also cites the case of his own a sailor who suffered with a great number of attacks of mutism (the first occurring as a result of fright) who previously had not suffered from any nervous disease and previously had led an active life in all parts of the world We may therefore conclude that this mutism resulting after shell shock in no way differs from hysterical mutism It appears, therefore, that there is nothing new in these functional disturbances and disabilities of speech and special senses except it be their severity and frequency in men the subject of shell shock

PATHOGENESIS OF MUTISM

We may now inquire into the pathogenesis of mutism Charcot attempted to draw a distinction between aphonia and mutism He adopted the doctrine of Marey and other physiologists that the larynx takes no part in whispered sounds According to Charcot, therefore, aphonia (in which the power of whispering is preserved) is a result of a partial paralysis of the adductor muscles of the larynx, while as to hysterical mutism Charcot writes "If the individual suffering from the affection is unable to whisper, it is not because he is aphonic, or rather because his vocal cords do not vibrate, it is not because he has lost the common movements of tongue and lips —you have seen that this patient was able to blow and whistle, it is because he lacks the ability to execute the proper specialised movements necessary for the articulation of words In other terms he is deprived of the motor representations necessary for the calling into play of articulate speech" Charcot therefore believes the oral division of the speech mechanism only to be at fault in hysterical mutism Wyllie maintains that whilst this may be so in some cases, in a second group it is the laryngeal division of the speech mechanism which is at fault, and in a third set of cases both oral and laryngeal mechanisms are simultaneously disabled Bastian alludes to a remarkable case recorded by Guido Banti in which the individual lost his speech owing to a lesion of Broca's convolution but was able to write, and the general intelligence was not interfered with Charcot considered hysterical mutism to be an instance of pure "motor aphasia' resulting from a functional trouble in Broca's region Bastian, however, agrees with Wyllie that aphonia and mutism are most intimately related, differing in degrees only, "and the oral and vocal speech mechanisms are concerned in all speech mechanisms whether it is sonorous or whispered' Bastian considers that the clinical differences between simple aphasia and hysterical mutism force us to believe in the existence of a bilateral cortical disability in the third inferior frontal convolution

Sir Charles Bell in his great work on the Expression of the Emotions first drew attention to the influence which powerful emotions exercise upon the respiration. A part of the cortex controls the mechanism of breathing in the production of all voluntary audible sounds, and this, like the movements of the vocal cords, is represented in both halves of the brain, for the muscles of the two sides of the body which control the breath and phonation always act synergically and never work independently In the oral division of speech mechanism the muscles of one side never act independently of the other Bastian is probably, therefore, correct in asserting that it is a functional disability of cortical structures in both hemispheres Whether he is right in asserting that it may be localised in the third inferior frontal is another matter I believe this mutism is due to functional paralysis of the voluntary central nervous centres which control phonation, for many cases are not only unable to talk or whisper, but to whistle, to utter a cry or to laugh aloud I examined one case by means of X rays and found the diaphragm could by no effort of the will be made to descend in a way sufficient to so fill the lungs as to produce an adequate expiratory blast for coughing He acquired this power later and was able to take a fairly deep inspiration, but he could not talk, whisper, or whistle, even instinctive audible sounds such as a cough, a cry, or a sonorous laugh he was unable to produce, the voluntary synergic mechanism of phonation was dissociated or inhibited, the failure was in the cortex, for this mute, like many others, talked and uttered cries in his sleep The return of tone in the voluntary cough is usually a herald of the return of speech

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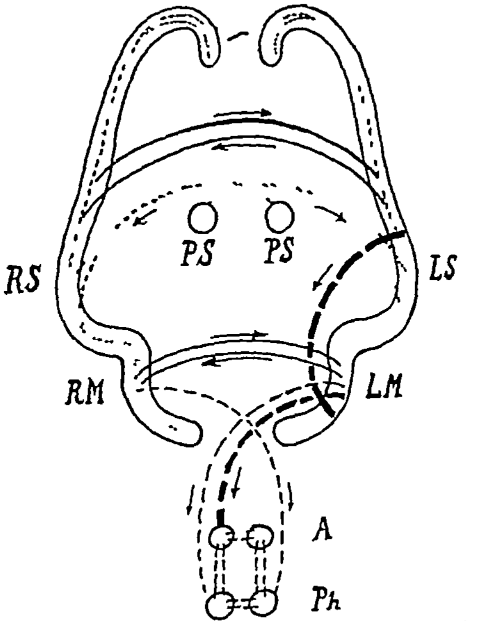
* Bastian On Aphasia and Other Speech Defects," p 125

But why should the mute be able to express his thoughts in writing but not by verbal speech? Writing, like articulate speech, is acquired by imitation, they are part of the social heritage of mankind, the only human heritage connected with this acquired language is the employment of the left hemisphere in the great majority of human beings as the active partner in controlling the lower motor centres of articulate and graphic expression of internal language, upon which thought, reason, and intelligence depend But an individual who heard no articulate language would speak no articulate language, still, he could express all the primitive emotions and passions by gesture, expression of eye and face, accompanied by modulated audible sounds This primitive language is universal and understood by all mankind It is the foundation upon which articulate language rests for expressing the emotions and passions Without modulation of the voice articulate language expresses no more feeling than graphic language Now the images required for the production of the voluntary impulses necessary for articulate speech by habit are initiated primarily in the auditory and glosso kinæsthetic centres of the left hemisphere, but the mental images of audible sounds by which the voice is modulated to express the emotions are initiated in an inborn pre organised mechanism in both hemispheres (see figure)

In support of this may be mentioned the fact noted by Galton in his "History of Twins," that whereas identical twins seldom showed similarity of character in handwriting, the vocal intonation was usually similar Again, it is true, as Lucretius observes in "De Rerum Naturæ," that not only the features but the voice and hair of forefathers are repeated

Without the mechanism of phonation audible articulate speech, even whispering is impossible Two grades of speech defects may be observed in hysteria and as a result of emotional shock—viz., aphonia, in which phonation is extremely weak and mutism, which is a complete loss of the power of phonation Many mutes first recover the power of whispering Moreover, experiments on the higher apes show that stimulation of the laryngeal centre produces bilateral movements, there is then bilateral representation of the abductors and adductors of the vocal cords Likewise there is bilateral representation of the muscles which control the breath in phonation (See figure)

Diagram to Illustrate the Two fold Mechanism of Articulate Speech



A, represents the lower articulator nervous mechanism *Ph* the lower phonator nervous mechanism *L M* the left motor higher centre of articulation *R M* the right motor higher centre of articulation *R S* the right *L S* the left sensory higher centre of articulation The cortical centres of the sensory higher centre of articulation The cortical centres of the speech zone in the two hemispheres are connected by fibres of the corpus callosum indicated by arrows *P S* peripheral auditory nervous mechanism Connected with the auditory centre of each hemisphere though mainly with the opposite It will be observed that the thick interrupted line indicates the *acquired* path of voluntary control over the articulator mechanism in right-handed persons If this is damaged in early life the right hemisphere becomes the active partner in the production of articulate speech We are quite conscious of all the movements of the muscles of the tongue the lips the jaw and the soft palate, by which the escape of the breath is modified so as to produce articulate sounds and language We are conscious only of the pitch and in a measure of the loudness of the voice by the sense of hearing The production of audible sounds varying in pitch and loudness expresses the emotions they are voluntarily initiated in both hemispheres and control equally both lower centres of phonation laryngeal and respiratory

Consequently we must suppose that mutism is caused by fear producing an emotional shock depressing the activities of the whole of the cortical structures connected with phonation and production of audible sounds

But we know by the terrifying dreams from which these soldiers suffer that this fear is contemplative and by imagination is continually operating consciously and unconsciously This terror keeps up its effects, and a refractory phase is induced thereby in the cortical structures controlling voluntary phonation We speak of being paralysed by fear, and just as *fixed idea* of paralysis of a limb maintains the paralysis by inhibiting volition, so fear is suddenly followed by a loss of phonation, and a paralysis of phonation is established by conscious and subconscious revival of the terrifying scenes in the mind, so that a *fixed idea* is induced thereby in the cortical structures controlling voluntary phonation We speak of being paralysed by fear, the tongue clave to the roof of his mouth If fear is continuous, maintained by the imagination, and consciously and subconsciously revived in the mind a *fixed idea* of paralysis of phonation is established in conjunction, perchance, with physical manifestations of fear commonly met with in mutes But attention becomes centred consciously and subconsciously on this "fixed idea", a vicious circle is established, and the refractory state in the cortical mechanism of phonation we have seen is broken down by a sudden emotional disturbance, in many cases trivial, but attended with surprise taking attention off its guard

I have hitherto dealt with some of the more important effects upon the mind produced by shell shock, but I will now consider briefly some of the other symptoms complained of, and among the most constant is headache

HEADACHE

So long as the patient is in a state of shock he feels heavy and dazed and does not suffer great pain as a rule, but later, as consciousness becomes less clouded, so the headache which invariably follows shell shock becomes more acute

The commonest situation for the maximum pain is the occipital region and the back of the neck, it is often described as a tight compression like a helmet—the helmet of Minerva The pain may be in the frontal region over one or both eyes, over the vertex, in one or both temples, or at the back of the eyes The pain is variously described as burning, stabbing, or a heavy dull dizzy feeling a feeling like a tight hat, or a red hot wire being run through the temples It is worse at night, especially upon lying down and trying to sleep It seems to be correlated with thoughts of terrifying scenes and is increased when the mind dwells upon these, and it is increased by the mind trying to thrust them aside The headache has in a few cases increased when the mute man tries to speak, or the deaf to listen, in fact in any condition in which the mind is trying to concentrate attention A few cases have complained of a severe headache for some hours after the recovery of speech or hearing

CARDIAC AND VASO MOTOR DISTURBANCES

The patients often complain of palpitation, breathlessness on exertion, and præcordial pain. There may be physical signs of dilatation and tachycardia. The pulse is often small and increased in frequency, the blood pressure is never high It was often below 110 and never above 135 The hands are frequently blue or mottled and cold, and often there is cold, clammy sweat of the palms The surface temperature may be very low, in one case it was only 16° F The temperature of the hands varied considerably according to the temperature of the room

SENSORY DISTURBANCES

Cutaneous and deep sensibility of the body may be affected, and in severe cases of shock I have occasionally found loss of skin sensibility to all forms of stimulus, pricking, heat and cold, and touch, also of deep sensibility, pressure of muscles, movement of joints, and bone sensibility to vibration of tuning fork The extent and degree of loss of sensibility is variable, and even in one case where the absence of response to stimulus was most marked the limits varied and were not well defined above The loss of sensibility in this case, however was pronounced to all forms of stimulus in the lower extremities, although occasionally after much delay and strong stimulation a response was obtained in the upper portions of the lower limbs Even eight months after admission there was a stocking anæsthesia in this case Hyperæsthesia is even more common than anæsthesia, and even the lightest touch gives rise to apprehension and movements of withdrawal in severe cases

HEARING AND VISION

Hearing, like speech, and often with speech, is completely lost, so that there is a condition of functional deaf mutism Sometimes speech returns before hearing or the converse may happen It is not at all infrequent for a man to be deaf on one side and not the other, and the history often shows in these cases that a shell has burst on this side of the man, the tympanum may be ruptured or the drum is "damped off" by wax forcibly driven against it Auditory hallucinations are not uncommon, and the patients complain of hearing the bursting of shells, of the noise of shells coming, of bullets whizzing, and of whistles blowing Many complain of a drumming noise in the ears, especially when they suffer with headache, but this may be replaced by clicking or ticking Hyperacusis, or extreme sensibility to sound, is a common and very troublesome symptom, making the patient miserable and apprehensive, it also excites or aggravates headache I found that many relapses occurred during the Zeppelin raid, and one man a sergeant, who had been a professional pugilist of great renown, suffered extremely so that the noise of the click of billiard balls irritated him to such a degree that he would protest forcibly against the game continuing His fellow patients found that they could easily cause him to flee by taking their slippers off and banging them on the ground sufficient to produce a sharp loud noise This case was remarkable in another way, since he had been terrified by the exploding bombs dropped by the Zeppelin he had developed a curious tic, which took the form of jerky purposive movements of the shoulders and head, as if to avoid a blow, and facial grimaces such as a pugilist would assume in a fight

Vision—The sight may be greatly affected during the acute stage, but it is commoner for the patient to complain of "smoky vision." Again, failure of accommodation and sluggish light reflex are not uncommon in the acute stages It may in some cases be weeks before the patient is able to read large print Occasionally there is diminution of the visual fields Photophobia was met with in some cases, but usually this was due to the irritation of "gas," or occasionally as the result of inflammation due to particles of earth or metal in the eyes, this photophobia was often associated with blepharospasm, often very persistent

A few cases of functional blindness have been admitted, but these cases more often are sent to special hospitals One case was of interest A shell burst near a man while he was attending to a wounded comrade He managed to drag the wounded man into a culvert but then found he was quite unable to see Another wounded man came into the culvert and helped him to get out The emotional shock and the darkness of the culvert it appears were responsible for the loss of function

Hyperæsthesia is a very common symptom. I have at present a severe case of great interest under my care

A man was sent down from the clearing station on Feb 10th, 1916 he had been blown up and buried he was blind, deaf, and mute He was sent from the St John

Ambulance Hospital, France, to the 4th London and admitted on Feb 29th When I saw him he was lying in bed on his side, with his legs curled up He took no notice of any sounds however loud, he did not speak, and he could not see This was the condition noted when in hospital in France When I examined him he could be made to open his eyes, and it was found that the pupils reacted to light, he took no notice of a strong light, nor did he reflexly close the eyes when a blow was suddenly aimed at the face The slightest touch, however, aroused an immediate defensive movement or withdrawal of the part It was difficult to test the reflexes, but I failed to obtain any deep reflexes of the lower extremity, and I could not obtain a plantar response I saw him fed with milk, at first he resented the nozzle of the feeder touching his lips, but as soon as the milk entered his mouth he swallowed it I understand there has been no difficulty in feeding him He responds to the calls of nature, and does not wet the bed He is even more sensitive and apprehensive to touch than the deaf mute, who also showed fear of being injured when touched The next day while suffering from the pain of an enema, which was relieving the bowels, he somewhat suddenly regained his sight He looked around in a bewildered manner, then burst into tears The next day he was able to write His powers of recognition were good, but he had a complete gap in his memory of the whole time he was in France

This blind deaf mute, then, is conscious of the external world only by tactile and kinæsthetic perceptual impressions, consequently the mind is focussed on them in his life of external relation Owing to the effect of past terrifying experiences constantly revived in dreams and very possibly, being blind, by hallucinations, his mind is constantly suffused with fear and apprehension of danger, hence the protective reactions of withdrawal of a part touched are greatly exaggerated

TREMORS

Tremors are extremely common and constitute a serious disability, they are coarse and fine, continuous during the waking state, absent in sleep, they may be general, affecting arms, legs, and head, they may affect one half of the body, both lower limbs or both upper limbs They are most often rhythmical coarse tremors, very like those of paralysis agitans, sometimes they are increased by intention so as to resemble disseminated sclerosis, sometimes they are fine tremors like exophthalmic goitre A true functional tremor as distinguished from the malingerer's tremor is not altered in its rhythm by taking the individual's attention away—e g, by making him count slowly and quickly

The following was a remarkable case of functional tremor completely cured by strong suggestion —

Gunner ——, aged 39, 15 years' service, R F A, 49 B Out in France 10 months Admitted to the 4th London in January, 1916 Last August, between Ypres and Flamentières, about 3 o'clock in the morning a big shell exploded near him and he remembered no more until he found himself, 14 days later, in the military hospital, Chatham The colonel told him he was lucky to be there at all He believes the shell killed a number of his comrades He was afterwards transferred to Colchester When I examined him he was sitting in a chair, legs, hands, and jaw were in continuous coarse rhythmical tremors like that of paralysis agitans, which became exaggerated when he was spoken to Every now and again he starts and looks upwards and laterally as if he feared a shell would drop on him his hearing is extremely acute, and the firing of the guns at Woolwich causes him alarm In narrating his history there is a constant repetition of words He dreams of shells bursting, and a fellow patient says he has disturbed sleep, groans and utters moans and sounds, and wakes up with a start at the least noise It is very difficult to test the reflexes on account of the continuous tremor The face is flushed, the palms sweating but the surface temperature is not lower than normal The pulse is good Sensibility and special senses He does not respond to the prick of a needle on the lower limbs or left arm and hand, but after delay responds immediately on the right hand Pricking of the face causes immediate response He does not feel the vibration of the tuning fork on the feet, legs or hands but does on the forehead, and there was a marked contrast between the bone sensibility of these parts He hears the fork quite well at 6 inches from the ears He has some difficulty in recognising colours he picked up the blue box, but was a long time before he picked up the red His sense of weight was not abolished but it was difficult to test because of the tremor which became of much greater amplitude, resembling in fact the intentional tremor of disseminated sclerosis, and caused the pennies to rattle in the boxes It is possible that his judgment of the relative weights was aided by hearing the pennies rattle He could taste very bitter fluids, but could not recognise vinegar, salt, or sapid fluids The sense of smell was considerably affected, for he did not recognise tincture of assafœtida, otto of roses, and oil of cloves, he smelt nitrite of amyl and recognised strong ammonia and glacial acetic acid, but they seemed to have much less stimulating effect than might have been expected Having made a most careful examination I said to this patient, "I am sure there is no organic disease, and you will get perfectly well and lose these tremors in a few days," which he did. I employed him for a short time as an object lesson to other new cases with tremors He is at a convalescent home now, a happy being

Various tics have been observed which, however, may be found by inquiry to have existed prior to war experiences and been merely exaggerated by shock Torticollis, facial tics, and blepharospasms have been observed Choreiform movements have been noted, and often these are due to unconscious imitation of other patients affected

FUNCTIONAL PARALYSES —*GAIT*

Functional paralyses are not at all uncommon, the most common being paraplegia, but hemiplegia and monoplegia are also frequently met with. A history shows that suggestion of injury plays a very important part in causing and maintaining a fixed idea of paralysis Thus a man is blown up and falls on his shoulder, although the injury is not sufficient to prevent him moving his arm the limb becomes paralysed In several a simple bruise of the hip led to functional paralysis of the leg, or falling on one side of the body that side becomes hemiplegic and remains so unless the *fixed idea* is abolished Paraplegia frequently arises from an injury of the back In these cases of functional paraplegia either the plantar reflex is flexor or no reflex response is obtained, the knee jerks are exaggerated and an ankle clonus may be obtained, but it is not a true rhythmical clonus The sphincters are not affected and the deep sensibility is usually unaffected, thus, they say, they feel the vibration of the tuning fork

There are many different *gaits* There is a refusal to attempt to walk There is a dancing tremor as if the legs were springs of coiled wire Owing to the fear of raising the foot from the ground the patient shuffles the feet along the ground on a wide base, making only small progressive advances The patient may drag both soles of the feet along the ground one after the other Another gait is that assumed by the patient who thinks he can only walk by means of supports afforded by two sticks He thus comes to assume a persistent leaning forward posture even when at rest Two such cases have recently been admitted under my care almost bent double through being allowed to think they could not walk without the aid of forward supports making them into quadrupeds Having assured myself these were functional cases, I said, 'Take away those sticks I want to see which of you two will first be erect again In a week they were almost well, Likewise with a hemiplegic who for 13 weeks had thought he was paralysed and had been given crutches I said, "Take away those crutches" In a few days the fixed idea of hemiplegia was entirely abolished, and in a week from a paralysed miserable being he was a cheerful healthy man

I am instituting a museum of crutches, sticks, and other supports of patients admitted from hospitals where they have been many weeks and months, only waiting to be assured that there was nothing the matter with them

THE ATMOSPHERE OF CURE

Be cheerful and look cheerful is the note that should ever be sounded to these functional cases Sympathy should not be misplaced although it should be shown to all these poor fellows who have a fixed idea of never recovering it is not their fault, it is a real thing to them, and no one could be more grateful than these cases of functional nervous disability for cheery words I use many of these cases that have recovered as object lessons I do not find hypnosis or psychanalysis necessary or even desirable, only common sense and interest in the comfort, welfare, and amusement of these neurotic patients are necessary for their recovery The conditions at the Maudsley Hospital will be all that can be desired There are light airy wards, and day rooms for meals and recreation, plenty of single rooms for the isolation of cases that are troubled with noises or require special attention, and especially valuable are the baths, so that every soldier can get a warm or cold spray bath every day The warm baths, and especially the continuous warm baths, of which there are eight, are especially valuable for promoting the action of the skin, of relaxing the tired muscles, and by their soothing influence helping to induce sleep, so that less hypnotics are required to be employed

Diversion of the mind from the recollection of their terrifying experiences is essential for successful treatment This can be best accomplished by the provision of every form of healthy indoor and outdoor amusements—e g, books games, and music These are better in a recreation hall where convalescent patients can enjoy themselves I have alluded to the hypersensibility of many of these patients to sounds, consequently neither gramophones nor billiards should be within the hearing of these acute cases The out patients' waiting room will be utilised at the Maudsley Hospital for recreation A full sized billiard table with all accessories has been anonymously presented to me by a lady, and I hope others of the charitable public interested in the welfare of these poor fellows suffering with shell shock will help to provide healthy amusements and games so essential to successful treatment

Mr President and Gentlemen, I began these lectures by stating that a new epoch in the history of war had arisen in consequence of the terrible new experiences resulting from the use of high explosives Some of you may have read "Aunt Sarah and the War,' and remember the following passage from a letter of Captain Tudor, in which he draws a comparison between insignificant home troubles and the experiences at the front "Lord if they could listen to the unceasing shells that drive some men deaf some men blind, some men dumb, and other men crazy, and these all of them MEN, with a newly earned meaning in the word, for there s a new meaning now in many an old word We shall want a brand new Dictionary, and its deuced hard on good old Murray that just at the end of his great work he should need to begin it over again

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BERI-BERI, WITH SPECIAL REFERENCE TO PROPHYLAXIS AND TREATMENT

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THE following paper is based upon the careful clinical study of over 50 cases of beri beri seen during the latter half of the past year in the Mediterranean area. The cases were of especial interest as regards their etiology

It is generally recognised that diet plays a very important part in the causation of beri beri, and some writers—e g, Osler in the last edition of the "Principles and Practice of Medicine"—go so far as definitely to classify beri beri among such diseases as scurvy as a "deficiency disease"

In the cases seen many of them showed that in addition to the etiological factor of diet there was some toxic influence at work, such as a previous attack of dysentery, chronic diarrhœa, purpura, or jaundice Thus in cases in British troops from the Dardanelles area 26 cases of beri beri were seen Of these, 12 had recently, before the onset of symptoms, suffered from jaundice One patient suffered from paratyphoid fever A associated with slight jaundice, another from a slight attack of jaundice three weeks *after* the onset of beri beri Five patients had suffered from previous chronic diarrhœa or dysentery and 3 from purpura.

In 11 cases of beri beri seen in British troops from the Mesopotamia district 1 had suffered from recent jaundice previous to the attack, and 1 from chronic diarrhœa.

The dietetic conditions in the two series of cases previous to the onset of the disease were similar, except that in the Mesopotamia series of cases, owing to difficulties unavoidable to an expedition of that nature, the dietetic factor undoubtedly played a more important part than in the Dardanelles cases

Clinically and pathologically there is not the slightest doubt that all the above cases were typical cases of beri beri

Of the 26 Dardanelles cases, 21 had suffered from some toxic factor associated with recent jaundice, diarrhœa, paratyphoid fever, or purpura It must be remembered, however, that the diet on campaign given in hospital for diseases like epidemic jaundice, diarrhœa, dysentery, and paratyphoid fever, while being suitable for the treatment of these diseases, is nevertheless very deficient in anti beri beri vitamines, and thus if one regards beri beri as due entirely to dietetic influences these cases cannot be excluded as beri beri cases, since the diet associated with the treatment of the diseases in question might undoubtedly cause beri beri in a patient who, as regards his previous dietary, had only a small margin as regards his protection *qua* diet against beri beri

In the Mesopotamia cases the toxic factor was quite unimportant and calls for no consideration, since the occurrence of toxic factors would undoubtedly have been as great amongst any other disease occurring in these troops

Symptoms

In the cases observed which were almost entirely of the œdematous or wet type, the earliest symptom noticed was usually some weakness of the legs, or shortness of breath on exertion, generally accompanied by malaise and anorexia. In a few cases the œdema of the legs was the first symptom observed, but it must be remembered that the detection of a preliminary symptom is dependent on the subjective observation and intelligence of a patient, and can only be elicited by means of "leading questions" Paræsthesia of the legs occurred quite early in some cases, patients complaining of numbness, "pins and needles" and alteration in the tactile sense The weakness of the legs was shown by inability to march or walk properly, the gait being somewhat unsteady Probably one of the earliest evidences of weakness of the legs would be shown by the "squatting test," which was quite too much for any of the patients in my series to perform at the time of examination This test consists in the patient bending his knees and separating them while standing so that he assumes a squatting position with the buttocks a few inches from the ground A beri beri patient is unable to raise himself up from this position, and often attempts to do so by climbing up his knees with his hands very much like a patient suffering from pseudo hypertrophic muscular atrophy The test should be remembered by regimental officers as a simple way of picking out early beri beri cases from amongst a body of troops who may be likely to be affected with the disease One patient said that he first noticed that something was wrong because he could not step up on to the firing ledge of his trench For a few days he was lifted up there by his comrades and supported while he did his allotted task He soon became too weak to walk and then became a hospital patient

Dyspepsia was an early symptom in most of my cases, it was not of a severe type, and consisted of epigastric discomfort and flatulence There was commonly definite tenderness on palpation over the duodenum

Swelling of the legs and feet was a marked symptom in many of the cases, and in some the œdema extended on to the thighs, scrotum, and abdomen In severe cases there may be œdema over the sternum In some cases the œdema was slight It must be remembered that one important factor in causing the œdema is the standing position In mild cases after resting in bed and appropriate treatment the œdema quickly clears up

Nervous symptoms—Paræsthesia has been noted above Anæsthesia and analgesia occurred in all the cases, there was inability to distinguish on the feet and legs the difference between a pin prick and finger touch when the eyes were closed The extent of this anæsthesia varied in different cases in some cases the feet only were affected, in others the feet and legs, and in some cases the anæsthesia of the feet and legs was complete In a few cases the upper extremities were affected All cases showed definite weakness of the legs and marked wasting occurred in all The extensor muscles were affected more than the flexors, so that foot and wrist drop were present in cases showing severe nervous symptoms There was not opportunity to test the electrical reactions of the affected muscles

Tenderness of the calves on pressure was present in all the cases In some cases cramps in the calves occurred

Gait—This was unsteady in type and there was a tendency for the toes to drop and render walking difficult, the gait was somewhat high stepping in type in some cases The gait had not the stamping character peculiar to tabes dorsalis

Some cases—e g, 2 out of the 26 Dardanelles cases, showed definite circumoral anæsthesia.

Laryngeal paresis occurred in 2 of the 26 Dardanelles cases, and in 2 of the 11 Mesopotamia cases, there was loss of voice for some days

Pharyngeal paresis shown by difficulty in swallowing, especially marked for liquids, occurred in 1 of the Mesopotamia cases and in 1 of the Dardanelles cases

Reflexes—The knee jerks may be increased in the first few days They are soon, however diminished and become quite lost even with reinforcement by pulling the hands apart, the fingers being opposed

An interesting symptom often present in beri beri cases is that the knee jerk disappears before the Achilles jerk, and when both reflexes are lost the Achilles jerk is recovered before the knee jerk when the patient improves This sign occurred in several of the cases of each series It was first pointed out to me by Lieutenant-Colonel de Crespigny, R.A.M C, of No 3 Australian General Hospital I do not believe that it has been previously published

Late signs in some of the cases showing severe multiple neuritis may be contractures of the muscles—e g, those of the calf causing a condition of talipes equinus, these are not common

Cardio vascular symptoms—The pulse is usually quickened, especially on exertion In severe cases it may be feeble and irregular Palpitation is a common symptom The cardiac dullness is increased, both on the right and left sides The heart shows signs of myocardial degeneration The impulse is feeble, and the first sound of the heart is short and poor in quality Often a systolic murmur replaces the first sound of the heart more or less completely There may be a definite galloping rhythm in severe cases Mild cases may show reduplication of the second sound of the heart In the 26 Dardanelles cases 12 showed signs of marked cardiac involvement In four of the cases the cardiac symptoms were of a very severe type, there being marked dilatation, irregularity, and galloping rhythm

Pyrexia is absent in beri beri cases unless they are associated with intercurrent affections Vomiting occurred in a few cases, it is a bad sign and many of the cases terminate fatally Loss of weight was marked in most of the cases

Other Types of Beri beri

1 *The acute pernicious type*—In this type sudden death without previous complaint of illness may occur and the post-mortem examination show signs of beri beri Usually anorexia, nausea, vomiting, epigastric discomfort and tenderness occur first, and these are quickly followed by marked cardiac symptoms Dropsy usually occurs and also some signs of neuritis, such as anæsthesia, hyperæsthesia, paresis, or paralysis The patient dies from severe cardiac symptoms within a few days

2 *The dry or atrophic form of beri beri*—This is similar in its symptoms to the œdematous type, except that dropsy is absent Marked wasting is a prominent feature One of the Dardanelles cases was of this type

3 *The rudimentary form*—In this type the symptoms are slight The patient complains of malaise dyspepsia with paræsthesia and anæsthesia of the lower extremities, and some loss of power The symptoms rapidly clear up under appropriate treatment

Post mortem Signs

Three of the Dardanelles patients died Careful post mortem examinations were made on two of them The following were the special post mortem signs found in these two cases Very marked œdema of the lower extremities, and to a slight extent on the trunk and upper extremities The stomach showed marked redness of the mucous membrane, which was most marked in the pyloric half where the colour was deep crimson The duodenum showed intense crimson congestion of the mucosa, most marked in the upper part The jejunum and ileum showed marked congestion, some petechiæ being present in the ileum. The large intestine showed congestion Numerous small hæmorrhagic patches about half an inch in diameter were present in the wall of the ascending colon. The mesenteric glands showed slight enlargement The heart showed marked dilatation of the right and left cavities No valvular disease was present The lungs showed œdema and congestion of bases The kidneys were congested and showed some œdema The liver was congested and showed slight nutmeg change The popliteal nerves were removed for subsequent examination for degenerative changes

Etiology

The etiology of beri beri is one of the most interesting problems in medicine. A great deal of original work has been done on this disease during the last 20 years, and the work recently done by Funk, Fraser, Stanton, Eykman, and Cooper has definitely established the important fact that beri beri is essentially a deficiency disease

Gowland Hopkins in his recent studies of the important part played by vitamines in metabolism has confirmed the conclusions of the above mentioned investigators Modern research on metabolism has shown that a diet of pure protein fats, and carbohydrates, with due admixtures of salts and water is not sufficient to maintain health, though the quantities given may be theoretically correct A growing animal fed on the above dietary will cease to grow and will develop some deficiency disease such as polyneuritis (beri beri) or scurvy Some other addition is necessary in the dietary if the animal is to maintain health and thrive Many natural foods contain the necessary additional substances, and these additional substances need only be present in most minute amount in order to make a diet which was formerly deficient quite ample for growth and health The necessary additional substances are known by the name of "vitamines" The vitamine for preventing beri beri, or polyneuritis in animals is different from that which prevents scurvy

The anti beri beri vitamine is a nitrogenous substance It is not a protein It does not contain phosphorus It is soluble in water and alcohol, or dilute acids It is destroyed on heating to 130 C, but not at a temperature of 100 C, nor by dilute acids, though sterilisation of foods undoubtedly destroys the vitamine Tinned foods, owing to the heat employed in their sterilisation are almost entirely deficient in anti beri beri vitamine This vitamine is more stable than the anti scurvy vitamine Thus the latter is destroyed by heating to temperatures below 100 C—e g, about 70° C Also the drying of fresh vegetables or even the keeping of them for long periods destroys the anti scorbutic vitamines

Rice has long been associated with the causation of beri beri, and modern research has completely cleared up the former obscurity as regards its relationship The rice grain consists of a husk or pericarp beneath which is a subpericarpial layer or aleurone layer, and the main central part of the grain or endosperm consists chiefly of starchy matter The anti beri beri vitamine is present in the subpericarpial or aleurone layer Machine polished rice consists solely of the starchy endosperm, the pericarp and subpericarpial or aleurone layer being completely removed This rice, which is the ordinary white rice of commerce, is devoid of anti beri beri vitamine, and birds fed on it rapidly develop polyneuritis, which will prove fatal Human beings fed on this rice will develop beri-beri if it is the main article of diet, and if the other articles of diet are deficient in anti beri beri vitamines Rice from which the husk is removed by steaming or treatment with hot water (parboiled rice) and subsequent rubbing in a mortar or by hand will not cause beri-beri. The reason is that some of the subpericarpial layer or aleurone layer is left adherent to the grain, and this contains the anti beri beri vitamine which is so essential to the dietary Numbers of experiments on animals and observations on human beings who have contracted beri beri from rice have completely proved the above view

In animals in whom polyneuritis or beri beri has been caused by feeding on polished rice the symptoms quickly clear up if for the polished rice the native unhusked rice—i.e, the rice from which the husk has been removed by previous treatment with steam or hot water—is substituted Instead of this the addition to the polished rice of an extract of the rice polishings will have the same beneficial effect. The katjang idjoe bean also contains anti beri beri vitamine and its addition in amount of ¼ lb a day to a polished rice diet will prevent beri beri in natives

Yeast is a substance which is, perhaps, the richest in anti beri beri vitamine Egg yolk, brain, liver, kidneys, sweetbread, oatmeal, haricot beans, peas are all fairly rich in this vitamine Milk and fresh meat contain only small amounts

In the cases of beri beri in this series the dietetic conditions were compatible with the development of beri beri

In the Dardanelles series the presence of a toxic factor such as jaundice, diarrhœa, or paratyphoid, necessitated a special diet, which, though suitable to the diseases in question, was almost devoid of anti beri beri vitamine, and so an additional dietetic factor was added to a borderland case, thus causing the development of beri beri

Other causes of beri beri which have been stated by various authorities are the following — 1 Arsenical poisoning 2 Copper poisoning 3 Poisoning by potassium oxalate 4 Food poisoning e.g, raw fish containing parasites decomposed fish or decomposed rice 5 Bacterial infections e g a specific coccus, the kakke coccus, of Okata and Kokubo, two Japanese surgeons Other organisms have also been described by different observers 6 That it is due to animal parasites, e g, ankylostomum duodenale or trichocephalus dispar 7 That it is due to a fungus, e g, Captain R. G Archibald, R.A M C, in one case has isolated a spore bearing fungus from the intestine, liver and spleen 8 That it is a disease of locality the infection being spread from the soil. 9 That it is due to a deficiency of organic phosphorus in the dietary

The subpericarpial or aleurone layer of rice is richer in organic phosphorus than the endosperm, and as a consequence it was found that rice poor in phosphorus was more likely to cause beri beri The investigations into the nature of the anti-beri beri vitamine by Funk and Cooper showed that it contained no phosphorus, and that the addition of organic phosphorus compounds did not *per se* have any curative or prophylactic effect in animals suffering from polyneuritis caused by a diet deficient in anti beri beri vitamines

It cannot be said that any of the above have been definitely established as causes of the disease Certain is it that the "deficiency" theory has been proved to be the most important factor It is possible that infective causes such as microbic or fungoid may also play a part

Predisposing causes are undoubtedly bad sanitary conditions, an insufficient and poor quality diet, and previous debilitating diseases, such as dysentery, jaundice, and others

Geographical Distribution of Beri beri

Beri beri is usually regarded as a tropical or subtropical disease, since it occurs in Japan, China, Malaya, the Philippines, India, &c Outbreaks have, however, occurred in America, and in asylums in England and Ireland It is undoubtedly rather the dietetic conditions associated with a particular place than the place itself which is the important factor

Differential Diagnosis

Scurvy—This is often present in association with beri beri, especially in cases such as those occurring on board ship or on campaign, where there is difficulty in the supply of fresh food In the Dardanelles series of beri beri cases three showed scorbutic symptoms, e g, purpura, though they could not be said to have scurvy In scurvy important diagnostic signs are the following The purple swollen gums with tendency to bleed Purpuric patches on the skin Anæmia Hæmorrhage into the hard palate Tenderness and swelling of bones due to subperiosteal hæmorrhage This condition is most often evident in the tibiæ, and then there is a good deal of firm œdema of the skin around the affected bone Indeed, swelling of the legs may be very marked, but there is great local tenderness over the tibiæ and not in the calves The above signs clearly distinguish scurvy from beri beri In scurvy also multiple neuritis is absent The effect of treatment often serves to distinguish the two diseases Thus, while scurvy rapidly clears up if special anti scorbutic substances such as raw potato, lemons, fresh vegetables (uncooked) are given, beri beri requires a special dietary of a different nature, as described below

Multiple neuritis from other causes, such as alcohol, diphtheria, arsenical poisoning, &c, must be carefully distinguished from beri beri The history of the case and other evidences of the action of the toxic agent—e g cirrhosis of liver from alcohol, pigmentation and rashes, and presence of arsenic in the urine or hair in arsenical neuritis—will usually enable a differentiation from beri beri possible

Diseases of the spinal cord, such as tabes dorsalis, myelitis, scleroses of various kinds, may be mistaken for the neuritis of beri beri. A careful examination for such symptoms as lack of bladder control, extensor plantar reflex, ankle clonus distinguishes myelitis and sclerotic conditions of the cord from beri beri In tabes the Argyll Robertson pupil, the marked ataxy, the absence of muscular wasting or tenderness of the calves are signs distinctive from beri beri

Dropsy from other causes, such as renal disease, where the presence of albumin and casts in the urine and absence of neuritis are points of distinction, cardiac disease, where the history of the case—e g, previous rheumatism or syphilis, or other cause of valvular disease, the long duration of the cardiac symptoms without signs of multiple neuritis, and the physical signs of actual valvular disease make the distinction from beri beri easy Epidemic dropsy is characterised by pyrexia, anæmia, and absence of multiple neuritis, which serve to distinguish it from beri beri.

Treatment

Absolute rest in bed is essential in the early stages and in all cases showing cardiac symptoms

Diet—In an acute case, where gastric symptoms are marked, the diet will necessarily be light and mainly liquid

Yeast should be given Two ounces of dried yeast, such as is supplied on campaign under the name of "export yeast," should be administered daily This is conveniently given by pouring on the yeast a little boiling milk, stirring up into a thin cream, and then adding more warm milk and sugar, so that a palatable food results In place of export yeast cakes of dried yeast mixed with a little starch are often available These are supplied under the name of "Royal yeast cakes," which are like small biscuits weighing about $\frac{1}{4}$ oz each Six of these should be given daily The following was found a convenient and palatable method of preparing the yeast cakes for consumption One or two yeast cakes were placed in a basin, boiling milk was poured on them, and the cakes broken up and rubbed round with a spoon into a thin cream Then warm milk and sugar were added, and the mixture was then ready for taking

If neither of the above forms of yeast is available on campaign yeast can always be obtained from the army bakeries, where yeast brews are constantly kept going The yeast obtained here will be mixed with the liquid of the brew About half a pint of this should be taken daily It may be sweetened with sugar and flavoured with lemon rind or essence of lemon It is quite palatable

Pea soup is a useful article of diet, the pea powder containing anti beri-beri vitamines Three or four raw eggs should be given daily, beaten up with milk, or taken in any other way

The above dietary is rich in anti beri beri vitamines, but a valuable addition to it will be fresh lemon juice—e g, the juice of two or three lemons per day This will contain anti scorbutic vitamines, which are often needed by beri beri cases, owing to the close association etiologically between beri beri and scurvy

When the patient can take solid food, in addition to the yeast, which is very essential throughout the disease, the following articles of diet may be given They are arranged in order as regards their value from the quantity of essential vitamine present, those highest in the list being rich in vitamine

Articles of Diet for Beri beri Cases, Arranged in Order as Regards their Vitamine Value

1 Yeast (already mentioned)
2 Eggs (either raw or lightly cooked)
3 Brain
4 Liver
5 Sweetbread
6 Kidneys
7 Heart muscle
8 Peas
9 Haricot beans
10 Katjang idjoe beans
11 Lentils
12. Porridge
13 Brown bread
14 Milk (fresh if possible)
15 Fish or meat
16 Ordinary bread or biscuits

Lemon juice or lime juice should also be given

Extracts of yeast are on the market These taste exactly like extract of meat, and when mixed with warm water form a drink like ordinary meat extract or bovril Yeast extracts may be given with advantage in beri beri cases, both acute and chronic

The relationship of rice to beri beri has been fully dealt with, and rice is best avoided in the treatment of beri beri cases

Fresh vegetables, fruit, and, generally speaking, an ample dietary should be given in beri beri cases where there is no gastric disturbance

The symptoms of beri beri call for special treatment The cardiac symptoms will require treatment by means of cardiac tonics—e g, digitalis, strychnine, strophanthus, &c In severe cases strychnine and digitalin may be given hypodermically, and oxygen Oxygen passed through absolute alcohol is valuable The multiple neuritis calls for treatment on the usual lines Light massage, electric treatment by the galvanic current, &c, are valuable

Prophylaxis

Diet is most important On campaign it is often difficult to avoid some deficiency in those articles of diet which are especially rich in anti beri beri vitamines Haricot beans, pea powder given in pea soup, and porridge are valuable and convenient articles of an army dietary in the field Fresh vegetables are also important

If beri beri is prevalent undoubtedly some preparation of yeast should form a constituent of the dietary of men exposed to danger from this disease Dried yeast or yeast cakes may be given, or else the yeast extract taken with hot water should be issued

It is very important that beri beri cases should be recognised as early as possible, and this can immediately be done by the application of the "squatting test" described above Cases showing the early symptoms should at once be put upon special treatment, since in the early stages the disease is easily and quickly cured.

General sanitary measures and attention to personal hygiene are of importance in the prevention of beri beri

My especial thanks are due to Major C J Martin, R A M C, of No 3 Australian General Hospital, for valuable help and advice given in connexion with the beri beri cases Much of the recent original work on beri beri was done under Major Martin's supervision at the Lister Institute, London, and the details given in this paper as regards diet are largely due to the valuable advice given by him I am also indebted to Lieutenant-Colonel Stawell, R A M C, and Lieutenant-Colonel de Crespigny R A M C, of No 3 Australian General Hospital, for their valuable coöperation and help in the clinical investigation of the cases My thanks are due to Colonel F J Brown, A.M S, senior medical officer of H M H.S *Mauretania* who very kindly placed at my disposal the cases of beri beri on his ship

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COUNTY OF CORNWALL ROYAL NAVAL AUXILIARY HOSPITAL.—The Truro workhouse, which has been equipped as the Cornwall Royal Naval Auxiliary Hospital was recently inspected by Surgeon General Sir James Porter K.C B K C M G R N and the Lords Commissioners of the Admiralty have expressed their appreciation of the excellent manner in which the institution has been fitted up The hospital contains 150 beds and £2524 were received in subscriptions towards the equipment the cost of which was £2651.

AN UNUSUAL FORM OF GUNSHOT ARTERIO-VENOUS ANEURYSM

IN WHICH THE SAC WAS SITUATED ON THE SIDE OPPOSITE TO THE VEIN

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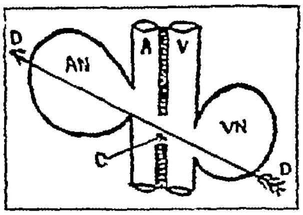
MAJOR, R.A.M C. (T)

IN the ordinary form of arterio venous aneurysm the aneurysmal sac lies between the artery and vein, and the communication between the artery and vein is through the sac In the case which I now record there was a communication between the artery and vein, due to the passage of a portion of a projectile through them, and on the side of the artery opposite to the communication, where the portion of projectile had passed out of the artery, was an aneurysmal sac Where the portion of projectile had penetrated the vein—i e, on the side of the vein farthest from the artery—was what we may, I think, call a venous aneurysm—i e, a cavity in the tissues containing old blood clot, communicating with the vein The condition may be represented by this diagram (Fig 1) I think it is more accurately described as an aneurysmal varix with, in addition, an arterial aneurysm and a venous aneurysm. It will be seen from Fig 3 that the opening from the artery into the aneurysm was higher in the artery in relation to the opening from the vein into the artery than I have represented in the diagram The piece of metal evidently passed through the vein and artery from below upwards

FIG 1.



Schematic section of arterio-venous aneurysm A artery V vein AN arterial aneurysm VN venous aneurysm C communication between artery and vein DD direction taken by the projectile in its passage

I have studied the records of the 50 cases of gunshot aneurysm recorded in the October number of the *British Journal of Surgery*, and I find there is one case of arterio venous aneurysm in which the aneurysmal sac was not situated between the artery and vein, nor did the vein directly communicate with it, but, as in my own case, there was a communication between the artery and vein close to it This communication was between the axillary artery and vein, and the aneurysmal sac was situated at the junction of the axillary artery and the subscapular artery As in my case, probably the rifle bullet first penetrated the vein, then the artery lying under it, and finally caused the aneurysm where it emerged from the artery The case is No 2 from the 2nd Northern General Hospital (Leeds) and was under the care of Captain Richardson, R.A.M C (T) A similar condition was almost certainly present in Case 1 from the 1st Scottish Hospital under the care of Lieutenant Colonel A Marnoch, R A M C (T) A traumatic aneurysm was found at operation on the femoral artery in Hunter's canal No communication between the artery and vein was then discovered, but it must, as Lieutenant Colonel Marnoch says, have existed, for after the operation there was persistence of a thrill Possibly in another case of arterio venous aneurysm the aneurysmal sac on the vessel was not the medium of communication between the artery and vein This is Case 4 from the 1st Scottish Hospital, under the care of Captain A P Low, R A.M C (T) In the picture of the specimen removed post mortem, the aneurysmal sac does not appear to lie between the artery and vein All that is said, however, in the description of the specimen is "In addition to an aneurysmal sac, there was a communication between the artery and the vein" In Case 2 from the 3rd Western General Hospital (Cardiff), under the care of Major Cornelius Griffiths, R A.M C (T), it is interesting to note that there were two small aneurysms, one on each side of the artery, but as there was no communication with the vein it is unlike my own case

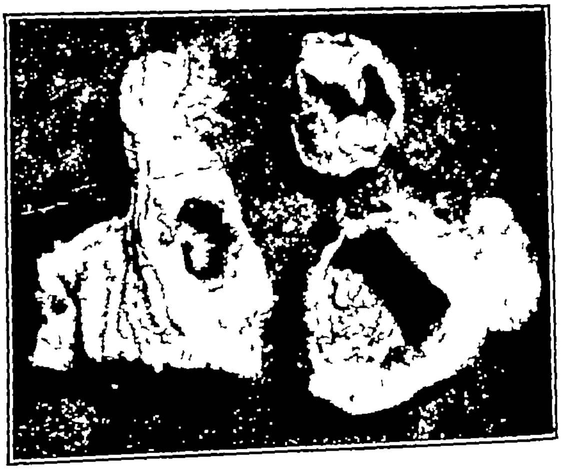
In two cases what I have described in my own case as a venous aneurysm was present, and in both cases combined with aneurysmal varix. Thus, in Case 5 from the 2nd Northern Hospital, under the care of Captain S W Daw, R A M C (T), there was an aneurysmal varix of the popliteal artery, and on the opposite side of the vein "a false sac" was present, which was considered to indicate (as in my own case) that "the vein had been pierced from side to side" It is stated that the "vein was detached from the false sac which was left alone" In Case 8 from the 2nd Western General Hospital, under the care of Major A H Burgess, R A M C (T), there was also what I have called a venous aneurysm, and Major Burgess also calls it an aneurysm There was a communication between the popliteal artery and vein, but the sac did not communicate directly with the artery, but was superficial to the vein—i e , on the opposite side to the artery, and the vein opened into it The injury was due to a rifle bullet, which perforated first the vein and then the artery, so that (as in my own case) the venous aneurysm was produced at the place where the vein was penetrated before the bullet reached the artery It was a cavity "the size of a hen's egg, containing old dark blood clot and some liquid blood"

My own case and the records of these other cases seem to me to indicate that we do not realise that cavities communicating with wounded veins may be formed by penetrating wounds of veins where a communication also exists between the vein and the artery In my own case the cavity was very small and was deeply buried under the muscles of the thigh Whether it would have had any thrill separate from that of the arterio venous communication or pulsation if it had been more superficial I cannot say But in Major Burgess's case is found a "soft compressible" swelling "with obvious pulsation" In his case the thrill and bruit were probably due to the arterio venous communication which lay beneath the aneurysm

The patient aged 24 was admitted to the Military Ward at the Bristol General Hospital on Oct 23rd 1915 He had been wounded by a bomb on Oct 17th On admission he was found to be suffering from two small wounds in the right lower limb one well on the outer side of the upper part of the thigh and the other just below the anterior superior spine A skiagraphic examination failed to show any portion of the projectile in the limb He also had a wound on the other leg Not until 18 days after the injury was anything abnormal noticed on the inside of the thigh The patient noticed a "beating" swelling there at the end of the first week in November together with a pain on the inside of the knee when he pressed on the swelling

On Nov 10th I found that there was a firm swelling with distensile pulsation, the size and shape of the end of a finger, in the line of the femoral artery 5½ inches below Poupart's ligament and 10½ inches from the adductor tubercle It was well defined on its lateral aspects, but merged into the surrounding parts above and below It disappeared on pressure on the artery above There was an extremely marked thrill, and this was confined to the neighbourhood of the swelling There was also a loud bruit, which was conducted up and down the vessel They were not quite continuous, but almost so—i e the intervals were only just appreciable There was no venous obstruction in the limb Venous obstruction as pointed out by Mr G A Wright,[1] may not appear for several months after an arterio venous communication first forms Both the posterior tibial at the side of the ankle and the dorsalis pedis could be felt There was no sign of any ecchymosis in the region of the swelling A skiagraphic examination of the region of the swelling shows a minute portion of metal close to it As there were two wounds in the thigh it seemed almost certain that the portion of projectile had entered through one of them but this was not so

Fig 2



The specimen on the left is the exterior of the artery with the base of the aneurysmal sac on it and the slit like opening out of the artery into the sac. The attached vein is seen on the left of the specimen with its walls folded together The lower specimen on the right is the dome of the aneurysmal sac which broke away from the base shown in the other specimen and the upper specimen on the right is the clot it contained (Natural size.)

The extremely marked thrill and bruit suggested arterio-venous communication, and the presence of a very definite firm swelling seemed to indicate that it was an arterio venous aneurysm, and therefore that operation was necessary I hoped to be able to deal with the openings in the vessels by Matas's method of suture with excision of the sac

Operation.—On Nov 16th I exposed the femoral artery and vein and the aneurysm by an incision in the line of the vessels The position of the aneurysm was just about the beginning of Hunter's canal I first clamped the femoral artery above the aneurysm with Crile's clamp and then separated the sartorius off the aneurysm and found it thinned and partly incorporated with it The fragment of metal shown in the photograph (Fig 3) was found immediately under the muscle—i e , in the superficial aspect of the aneurysmal sac The wall of the sac (which is shown in the figure) was very thin and lacerated, and was partly formed by the sartorius muscle It contained partly decolourised firm clot some of which was adherent to the wall The greater part of it was easily wiped off the artery with a swab and exposed a firmer base (seen in Fig 2) in which was a slit-like opening out of the artery (also shown in Fig 2)

The artery and vein below the aneurysm were then exposed In separating the vein from the wall of Hunter's canal I got very free bleeding I could not understand why this occurred It was controlled by digital pressure on the eeding area in the vein, and I then separated and tied the in below it But this did not stop the bleeding, and I had get my assistant to keep up digital pressure on the bleeding ea in the vein over some gauze while I proceeded with e operation I then detached some clot lying in the orifice om the artery into the aneurysmal sac, and smart bleeding curred from the artery I tried to stop this by applying other Crile s clamp to the artery below the aneurysm, ut it was ineffectual But I found that if I grasped both rtery and underlying vein together below the aneurysm ith my thumb and finger this stopped the hæmorrhage So put a pair of pressure forceps on both vessels lying gether at this spot and controlled the bleeding in this ay The blood was evidently coming from the proximal nd of the vein through the artery, but the proximal part of he vein was deeply bound under the artery and aneurysm and could not reach it to ligate it, so that the only thing to be lone was to clamp where I found that pressure was effectual n controlling the bleeding It did so at this level because t cut off the communication between the vein and the rtery This was not evident at the time, because I did not now exactly the position of the communication, but I was ery glad to be able to control the free bleeding by the pplication of the pressure forceps

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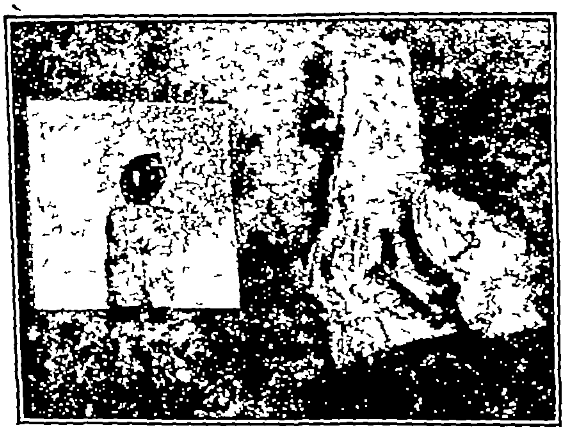
[1] The Lancet Dec. 11th 1915, p 1283

It was now evident that I could not do Matas s operation, and I decided to excise the portion of the artery and vein involved in the morbid condition I divided the artery below the aneurysm, and the vein had already been divided there I then picked up the two vessels, which were united together until I could get at the proximal end of the vein beneath the artery above the aneurysm and ligate it as well as the proximal end of the artery After this portion of the vessel had been excised and all bleeding had ceased the existence of a small cavity in the inner wall of Hunter s canal was discovered It just admitted the finger tip and contained a little old clot. It was either between the fascia and the adductor muscle or in the muscle and had a rough wall It was situated just where the troublesome bleeding had occurred on separating the femoral vein from the wall of Hunter s canal below the aneurysm

FIG 3



On the left stuck into a piece of cork is the portion of projectile which penetrated the artery and vein Its edges are as sharp as a knife It measures ½ cm in one diameter and a little more in another The specimen on the right is the interior of the artery showing the slit like opening into the aneurysmal sac. A glass rod has been passed through the communication between the artery and vein The vein does not show in the figure It lies behind the artery Where the communication between the artery and vein is seen the arterial wall looks much smoother than the other part of the interior of the artery This is because this is the portion of the artery clamped in the forceps and the inner coats have therefore separated and retracted There is only one inch of artery represented in the figure The tissue at the upper end of the specimen is only connective tissue on which the artery lies (Natural size)

I did not understand the significance of it at the time of the operation, but on further consideration it was evident that it had communicated with the vein and that the opening into the vein had been torn in separating the vein from the wall of Hunter's canal It was also evident that the minute portion of metal, which was as sharp as a knife edge, had penetrated the back of the thigh in the adductor region, had then passed upwards and forwards through the femoral vein, then through the artery It was found just superficial to the artery The cavity in or under the adductor muscle, which I have called a venous aneurysm, was probably due to escape of blood out of the vein at the part where it was first penetrated This was almost certainly due to the force of the blood current forced from the artery into the vein This cavity was exactly analogous to the aneurysmal sac in the case of Major Burgess, to which I have already referred Only in my case there was in addition to what I have called a venous aneurysm, an ordinary traumatic arterial aneurysm on the other (the superficial) side of the artery There seems to be no evidence that a puncture of a vein will cause the formation of the condition of what I have called venous aneurysm, without also a communication with the artery The force of the circulation within the vein is not sufficient to produce it Such a condition has been described as a form of varicose aneurysm—i e , when the sac only communicates with the artery through the vein For purposes of distinction it seems to be better to recognise the condition as one of aneurysmal varix, combined with venous aneurysm

The collateral circulation was quite efficient and the healing of the wound was satisfactory, and the patient on Dec 23rd was able to get about with crutches He has not yet regained full power in the limb (Feb 20th, 1916)

It is interesting to note that in this case there was nothing to make either the patient or any surgeon who examined him suspect injury to the large vessels of the thigh until 18 days after injury The wounds which were recognised were far away from the large vessels, and there was no evidence of any track crossing the limb near them The minute puncture made by the entrance of the portion of projectile which injured the vessels on the back of the thigh could not have been much larger than a tenotomy cut and was never recognised I have looked through the 50 cases of traumatic aneurysm to which I have already referred to see if the injury to the vessel had been unrecognised for any length of time in any of these cases

In Case 6 from the 1st Scottish Hospital, under the care of Captain F K Smith, R A M C (T), the soldier was wounded in the arm by a rifle bullet which traversed the arm from side to side a few inches above the condyles and had caused serious bleeding at the time of the injury But when admitted to the base hospital 16 days later, with the exception of the wounds which were quite dry, and some ecchymosis, nothing abnormal was discovered, and yet eight days later symptoms and signs of aneurysm developed and at operation a large gap was found in an artery so that probably some extravasation remained from the time of the injury, but had become circumscribed and then later on on August 8th, diffused In this case the knowledge that severe hæmorrhage had occurred at the time of injury led to a special examination in the region of the vessels and no signs of traumatic aneurysm were discovered 16 days after injury

In Case 1 from the 3rd Western General Hospital, under the care of Major Cornelius Griffiths, when the patient was admitted to the base hospital with a healed bayonet wound of the axilla, there seem to have been no signs of aneurysm It is not stated how long before admission the bayonet wound was received It is stated that "a fullness gradually appeared in the pectoral region but no pulsation was apparent for a fortnight after admission" and yet a hole the size of a pea was present in the third part of the subclavian artery

In Case 1 from the 1st Northern General Hospital, under the care of Major Grey Turner, there was a considerable interval after the passage of the bullet across the neck before there were signs of the arterio venous aneurysm which developed The wounds had healed, and he had been discharged from some hospital as cured before he noticed a small slightly pulsating swelling in the neck It must have been a fortnight from the injury, but the exact data are not given

In Case 3 from the same hospital, and also under the care of Major Grey Turner, what were supposed to be "only trivial injuries" in the region of the knee had healed, and the patient was sent to a convalescent home a month after injury by "shrapnel." He complained of a little pain behind the knee, but it is stated that there was no swelling "and it did not seem to require attention" Yet 13 days later a large aneurysm had formed, and an oval aperture about ⅜ inch long and ¼ inch across existed in the popliteal artery This case is particularly instructive, as it is fairly easy to detect a swelling in the popliteal space, and yet there was no sign of aneurysm one month after injury, although the region was specially examined

In Case 4 from the same hospital, and also under the care of Major Grey Turner, an aneurysmal varix of both the posterior tibial artery and the peroneal artery did not give indication of its presence until more than three months after the injury, and after the soldier had been getting about "without any inconvenience from the leg" As there were scars indicating the passage of a bullet through the calf the limb was auscultated and a bruit discovered

In Case 5 from the 1st Scottish Hospital, under the care of Captain H E Smith, an aneurysmal varix of the femoral artery in Scarpa's triangle was only discovered accidentally by a medical officer who was applying a fomentation to a boil on the thigh He felt the thrill This was more than two months after a bullet wound of the thigh had been received

In Case 4 from the 1st London General Hospital, under the care of Major Cozens Bailey, R A M C (T), the soldier was struck on the calf by a shrapnel bullet, but it was not thought to have penetrated, and the soldier was sent to the base hospital for frequency of micturition, with the supposed "graze" on the calf healed Eighteen days after the injury the patient felt a swelling on the inner side of the knee, and a few days later pulsation in the popliteal space was discovered, and an aneurysm of the popliteal artery was found at operation

In Case 7 from the 2nd Western Hospital (Manchester) under the care of Major Burgess, a soldier was admitted whose lower limb had been penetrated by a piece of shell passing in through the popliteal space, but it was not until three weeks later that a swelling then due to aneurysmal varix was discovered

It is evident from the records of these cases (including my own) that there may be what we may call a latent period of some few weeks after the infliction of the injury before signs or symptoms of either traumatic aneurysm or aneurysmal varix appear Yet the findings at operation show that in such cases considerable wounds may be present in the vessels Why does not the aneurysm or the aneurysmal varix develop sooner in these cases? It seems probable that in cases of aneurysmal varix it does develop at once, but as the condition may be present without any symptoms, and may be only noticed accidentally, as in Case 5 from the 1st Scottish Hospital, it is only later discovered But in some of the cases of aneurysm there was no swelling when the injured region was examined some weeks after the injury, and therefore there could not have been an aneurysm of any size then present This was so in both Case 3 from the 1st Northern General Hospital and Case 6 from the 1st Scottish General Hospital, and as in one case the aneurysm later developed in the popliteal space, and in the other in the lower end of the upper arm, it would have been easy to discover them at an early stage if they had then been of any size May it therefore be possible that in some cases the hæmorrhage may be so slight as not to cause a definite swelling, even amongst tissues where it is accessible to observation—i e, not buried deeply under large muscles? It is possible that the outflow of blood from the artery may be, at any rate for a time, limited very greatly by resistance of the surrounding tissue, and a very small circumscribed aneurysm formed. But if it is thus limited at first, so that the aneurysm does not enlarge even enough to be detected, why does it enlarge rapidly later on, unless it changes from the circumscribed form to a diffuse one? That it has not always become diffused, when it is detected after a latent period, is shown by the records of two cases in the *British Journal of Surgery*, for in these cases it is stated that there was a sac And when in these cases of aneurysm developing after a latent period operation has been performed, quite a large opening has sometimes been found in a large artery, so that the marvellous thing is that an aneurysm of considerable size did not form immediately after the injury

Is it possible to account for the latent period by supposing that for a time the lumen of the artery is blocked by clot, and that later this clot becomes detached, or, in septic conditions, disintegrated? It would be interesting to know if in these cases, during the latent period, the pulse is obliterated in the artery beyond, for if it were that would support such a view

The possibility that clot may form in the aperture in the vessel wall, and stop the bleeding, and yet the lumen of the vessel may not be occluded by clot, and that this clot in the aperture may later be detached and disintegrated must be considered as a possible explanation of the latent period If the wound in the artery were minute one could understand its being sealed with clot without obliteration of the lumen of the vessel, but in some of these cases it has been of such considerable size that this is very unlikely to have occurred, and, moreover, if it is once sealed by clot the opening ought to be healed a few weeks later, whereas it is then found open, and the source of the hæmorrhage—i.e, at the time the aneurysm is first detected It seems impossible that a scar in the vessel wall could give way and cause an aneurysm, when no aneurysm was formed all the time the wound in the artery was in process of healing, or that a small scar in the vessel wall could dilate into an aneurysmal sac [3]

Clifton Bristol

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[3] Since this paper was written Sir George Makins's paper on "The Vascular Lesions produced by Gunshot Injuries and their Results" has been published in the January number of the British Journal of Surgery (p 365) and he there makes some interesting suggestions as to the cause of the delay in the formation of traumatic aneurysm

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ROYAL PORTSMOUTH HOSPITAL —The annual meeting of this institution was held on Feb 25th when the report for 1915 was submitted It appears from the report that this hospital is in a better financial position than for many years past The ordinary income had been a record amounting to £11,166, as compared with £7192 in the previous year The chief factor in this large increase was the payment for 739 military patients treated during the year The expenditure, which amounted to £11 504 was also a record, due partly to the admission of military patients and partly to the abnormal rise in price of provisions and stores of all kinds Legacies amounting to £1249 had been received so that the year ended with a balance to the good of £911 The average cost per bed occupied was £65 5*s* 6*d* as compared with £61 17*s* 10*d* in 1914 and the average cost of each in patient was £3 16*s* 6*d*, as compared with £3 12*s* 1*d* in 1914 Seven members of the honorary staff have been absent on military service

DIET AS A FACTOR IN THE CAUSATION OF MENTAL DISEASE

BY CHAS MERCIER, M D LOND, F R C P LOND,
LATE PHYSICIAN FOR MENTAL DISEASES TO CHARING CROSS HOSPITAL

(*Concluded from p 513*)

"Forty years long was I grieved with this generation and said it is a people that do err in their hearts, for they have not known my ways."

IT is just 40 years since I first ventured to call in question the accepted doctrines of the causation of nervous diseases In an article in the *British and Foreign Medical and Chirurgical Review*, an excellent quarterly now long defunct, I likened the imagination of physicians in this respect to the imagination of that fortunate sailor to whom was granted (nowadays we should say who was given) the fairy privilege of having three wishes fulfilled After he had secured all the rum in the world and all the tobacco in the world by his first two wishes, he could think of nothing further to desire than "a little more rum" So physicians, after they had attributed every known nervous disease to sexual excess and syphilis, had no explanation of a new disease to offer beyond a little more sexual excess The only nervous diseases that were not then attributed partly or wholly to syphilis were tabes and general paralysis Some five and twenty years ago, when an eminent physician was about to lecture upon the causes of insanity, I hazarded the conjecture that we should hear a good deal about masturbation, and I had no reason to repent of my prophecy We may be pardoned a little natural exultation when we contrast the present state of etiological doctrine with that which prevailed in those dark ages We had then no more reason for our belief than Aristotle had for the belief that all heavy bodies tend to the centre of the universe, but now we know that the mental diseases that we used fondly to ascribe to sexual excess and syphilis are, in fact, due to repressed complexes and infantile incestuous longings How foolish were our predecessors! How enlightened are we! Great is Freud, and Dr Forsyth and Dr Stoddart are his prophets Behold! how good and joyful a thing it is that we should be taught to sing our *Venite exultemus*, and say, O come let us worship, and fall down and kneel before the Fraud our faker

Without impugning in the least the startling discoveries that we owe to the cleanly imagination of Freud, I think it possible that they may be supplemented by researches less recondite When I study his efforts to discover the causes of mental disease, I am irresistibly reminded of the story of the Purloined Letter The detectives knew that it must be in the room, so they groped up the chimney, pulled up the floor, sounded the walls, probed the furniture, and ripped up the cushions, without finding the letter, which was lying displayed prominently under their noses all the time It has occurred to me that our difficulty in discovering the causes of mental disease may possibly be of the same kind We may perhaps be looking in the wrong places and instead of searching for them in the privy and groping in the night stool, on the system of Freud, we may possibly find them on the dinner table, and in the sugar basin and the butter dish At any rate, we can pursue this method of investigation without fling our minds and even if we are unsuccessful, we can leave off with clean hands

To this line of investigation I was directed by several considerations First, it is beyond question that certain things, when taken into the stomach, are capable of producing mental disease Alcohol is an example Second, the defect of certain constituents of the blood does produce mental disease Cretinism and myxœdema are examples Third, whatever the immediate source of these constituents, their ultimate source is in the food If the ingredients of the products of the ductless glands are not in the blood, those products will not be produced, and if the ingredients are not in the food, they must be absent from the blood also Moreover, fourth, it may be that there are certain ingredients in the blood, and therefore in the food, that are necessary to mental health, even without elaboration and transformation in the ductless glands, for investigation has now discovered the existence and the astonishing properties of vitamines Whatever the nature and whatever the mode of action of these puzzling substances, it is beyond question that their absence from the food does profoundly affect not only the physical health, but the mental health also Hence I conjectured that it was possible investigation might discover, in the antecedents of some cases of mental disease, some error in diet that might have a causal connexion with the disease

At this point a great difficulty presented itself. Granted that one or more errors or peculiarities in diet were found among the antecedents of mental disease, how would it be possible to assure oneself that such errors or peculiarities were actual causes, and *not* mere casual associates or antecedents of the disease? To ascertain this I naturally turned to the writings of logicians, all of whom, and they are many, discuss this matter in their chapters on Induction, but alas! I found that upon this topic the logicians are as inept and as manifestly erroneous as they are on every other topic that they discuss Not one of them affords any trustworthy criterion or test by which a cause may be distinguished from a mere antecedent or associate, and on this matter their writings are as confused and self contradictory as they are on every other It became necessary, therefore, to examine afresh the whole subject, not only of the nature of causation, but also of the methods by which causation can be ascertained, and the results of this examination are embodied in a book which is now in the press From this I may extract for the present purpose the following principles, which are all that have a direct bearing on the subject now under discussion —

First, that a cause is, strictly speaking, an action, more loosely speaking, an agent exerting an action, on the thing in which the change that we call the effect is produced That thing in the present case is the patient

Second, that before we can call an action upon a thing the cause of any subsequent change in that thing, we must prove a connexion between the action and the change

Third, that this connexion may be proved in at least a dozen different ways, the only ways applicable to the case under consideration being those included in the Method of Association When an action upon a thing is associated with a subsequent change in that thing we must not infer that the action is the cause of the change unless—

(*a*) We can isolate the action—that is to say, unless we can be sure that it is the only action upon the thing at the time that could have produced the change, or

(b) The association is constant—that is to say, the effect always follows the action, and is never present unless the action has taken place, or

(c) If, though neither isolable nor constant, the effect is associated with the action more often than casual concurrence will account for, or

(d) If, though the association is neither isolable nor constant, yet when the effect is associated with the action, there is a constant peculiarity in the effect

By applying these principles we can ascertain whether a disease that is associated with what we may conjecture to be a cause, is or is not due to that cause Such testing of conjectural causes has never yet been performed, except in the case of infectious diseases With the discovery of parasitic micro organisms the causes of a large class of diseases have been ascertained, but our speculations as to the causes of non microbic diseases are much the same as they were 40 years ago With respect to these diseases the custom is to hazard a conjecture, and to speak of the conjectural cause as if it were an ascertained cause, and with respect to mental disease our attribution of cause is chiefly determined by fashion At one time, as I have said, the only causes attributed were sexual excess and syphilis These were followed by heredity, heredity was followed by toxins, toxins were followed by repressed complexes In vain have I called on their supporters for evidence of the truth of these doctrines Truth, as Dr Johnson said, is a cow that will yield them no milk, so they are gone to milk the bull The utmost and the only result of my endeavours has been that the Medico Psychological Association has altered the title of its Table of Causes, and now calls it a Table of Etiological Factors I do not think the change was made merely for the sake of euphony It was made, I believe, with the intention of eluding my criticisms Alienists have the most profound and complete conviction that they can alter the nature of things by altering their names, and that when a new name is given to a thing a new thing has been discovered Thus, when that which has been known for many years as primary dementia is called dementia præcox, they are lost in admiration at the brilliancy of the new discovery, and can scarcely find terms strong enough to express their admiration of the discoverer They seek to abolish the terrors of madness by calling it lunacy, they seek to abolish the terrors of lunacy by calling it insanity, they seek to abolish the terrors of insanity by calling it unsoundness of mind, which it isn't, or mental breakdown, or neurasthenia I look forward hopefully to the time when they will call it Mesopotamia They seek to abolish the terrors of mad houses by calling them asylums, they seek to abolish the terrors of asylums by calling them retreats, they seek to abolish the terrors of retreats by calling them sanatoria, or mental hospitals The last title carries a subtle suggestion of self complacency, for how great must be that mind which can contain an entire hospital! I suggest, with some diffidence, that it would be still more impressive to call the hospital after a part or faculty only of the mind We might call it, for instance, an imaginary hospital Following the same easy and efficacious method, alienists propose, when I show that what they call causes are not causes, to nullify my criticism by altering the name and calling them etiological factors One of my ways is to call a spade a spade, but alienists prefer to call it an agricultural implement. It is indeed a people that do err in their hearts, for they have not known my ways

So far I can follow Moses, but when he loses his temper and proceeds to swear at his recalcitrant people, I must renounce his leadership Falstaff declared that he was as poor as Job, but not so patient I, on the other hand, may justly claim to be more patient than Job, though perhaps not quite so poor His period of affliction was but brief His friends sat by him in silence for a week, and the whole of the subsequent discussion on Moral Conduct as a cause—I beg pardon, an Etiological Factor—in Good Fortune could scarcely have lasted for more than another week, after which his trial came to an end, but I have suffered my fellow alienists, as gladly as I possibly could, for 40 years, and for the whole of that time they have erred in their hearts and have not known my ways

Moreover, though Job was less irritable than Moses, and did not go as far as actually to swear in his wrath at those who were so wrong headed as to take the other side in the discussion, and to refuse to adopt his views, yet it must be confessed that his patience and forbearance have been a good deal exaggerated, and fell far short of the meekness of Patient Grizzel or the Nut Brown Maid More than once he was within an ace of losing his temper "No doubt," said he, "but ye are the people, and wisdom will die with you But I have understanding as well as you," and so on No one can accuse me of such petulance, even towards psycho analists If they were to bring forward an argument, or anything that could be passed off as an argument, or even anything that colourably resembled an argument, in favour of their crazy system I should examine it, I trust, with patience, and with what gravity I could muster, but though it is my way, it is not their way to give a reason for the faith that is in them. It is a people that do err in their hearts, for they have not known my ways

I know it is hopeless to expect my colleagues who practise in mental diseases, and whose spiritual home is in Germany, to pay any attention to anything I may say, or indeed to any doctrine that is not made in Germany, but it is not for them that I have recorded in the last number of THE LANCET the cases that I will now proceed to examine These are of general interest, and are such as are likely to come in his daily work before the general practitioner, and he, at anyrate, can appreciate their significance

Here are recorded a number of cases of persons who have sought relief from mental disease, and the first comment that they call for, that they cry aloud and clamour for, is that, of 35 cases of mental disease, only one could be certified as insane I insist upon this with special emphasis because of the universally accepted doctrine that disorder of mind is equivalent to insanity—that disorder of mind and insanity are the same thing The contention that I have urged for so many years, that unsoundness or disorder of mind is not necessarily madness, has always been received by the people that do err in their hearts with contemptuous incredulity and open derision Now, whatever my faults, and whatever my fads, I think even this people will admit that a patient must be undeniably sane if I cannot certify that he is insane, and of these 35 patients I could not have certified more than one, that is to say 3 per cent Of course, I do not expect this to make any impression upon my alienist friends, but I beg the rest of the profession to note this indefeasible demonstration that mental disease, mental disorder, or unsoundness of mind, is not the same thing as madness, but that many and varied mental disorders are compatible with complete sanity

The peculiarities in diet which preceded and accompanied the mental disorder in these patients were mainly of two kinds—deficiency of meat, or excess of fat, starch, or sugar According to current practice, the peculiarity of diet would be regarded as unquestionably the cause of the mental disorder, but so to regard it would be quite unjustifiable unless the association of the peculiar diet with the mental disorder satisfies one or more of the conditions stated above, and the reason is clear Vegetarianism is common enough mental disorder is common enough. On the doctrine of Probability it is certain that the two must coincide in the same person in a certain number of cases—in a number that cannot be exactly ascertained for want of exact figures There is, besides, another source of possible error It is quite rare for vegetarianism to be the only fad of the vegetarian Almost always he has a stock of fads He cultivates a number of what may be called anti isms He is anti alcoholist, anti vivisectionist, anti vaccinationist, anti capitalist, anti bellumist, anti patriotist He is anti penalist, and would provide all gaols with pianos and newspapers, beer and skittles He is anti restraintist, and would abolish all lunatic asylums, rightly from his own point of view, for so he would escape the risk of losing his own liberty It is, no doubt, possible to hold some of these opinions with reasoned conviction, and after examination of the evidence, but it is not so that the faddist holds them He holds them as mere prejudices He attaches to them a very disproportionate importance He advocates them in season and out of season, and with intemperate zeal He erects them into a religion, of which he is a fervent missionary, and of which he is proud to be a martyr in any small way which does not interfere too much with his comfort, or if it does, brings him a consoling notoriety He regards any means of proselytising as justifiable, and lies conscientiously in furtherance of his fads A mind of this nature is unbalanced. It is not insane, but it occurs in people who have insane relatives, and who are apt themselves to become insane We should expect, therefore, to find among vegetarians an undue proportion of insane *persons* For this reason I have omitted from the cases adduced every case in which abstention from meat was a fad, and have included those *only* in which meat was eschewed either because it was *distasteful* or because it was not procurable

That very definite peculiarities in diet did precede and accompany the mental disease in the cases I have recorded is unquestionable What is now to be determined is whether this antecedent and accompaniment can rightly be considered a cause To this end we must make four enquiries —

First is the action that we conjecture to be the cause, that is, the action of the diet upon the patient isolable? In other words, can we separate it from other actions on the patient so as to ascertain beyond doubt that the change in the thing acted on is due to that action, and to that alone? At first sight it seems that we cannot, for we know very little of what other actions tending to produce mental disorder may or may not have been incident upon the patient at the time In some of the cases—viz., Cases 10 and 13—the patient was alone from morning till night six days in the week, which we may conjecture was inimical to mental health, in other cases there had been worry, anxiety, and other stresses While, however, we can never completely isolate the action, we can produce an approximate isolation by withdrawing the action that we surmise is the cause, and noting any difference in the effect during its absence, and, it may be, allowing it to act again and noting the effect of the addition In several of the cases the rectification of the diet was followed by improvement of the mental health, and in some cases this improvement was rapid or immediate, and was great In this respect Case 5 is extremely instructive This patient improved very decidedly within a week of the rectification of her diet She continued to improve, until at length she spoke of her recovery as a miracle Then she had a relapse The relapse was not coincident with a return to the faulty diet, but it was coincident with what, for the purpose in hand, amounted to much the same thing—that is to say, with her pregnancy She now took, it is true, enough proteid to nourish her own tissues, but it was not allowed to nourish her own tissues It was seized upon at once by the growing fœtus, whose demands were paramount, and she was deprived of it Nor did she improve when the child was born, but then, when the child was born, it was still her own food that nourished it When, however, she weaned the child she rapidly recovered It is difficult to avoid the conclusion that in this case the mental disease was dependent on the deficiency in the ration of protein, whose fluctuations it followed so closely

It is one of the disadvantages of consulting and hospital practice that a large proportion of the patients are seen once only, and the result of one's advice *remains unknown* Of the 35 cases here recorded, 14 were seen only once, and nothing certain is known of their progress, but of other cases seen only once inquiries were made, and it was *found* that they had so greatly improved that they did not think it worth while to come again. It is a fair inference, therefore, that some of those who were not heard of had the same reason for ceasing to attend Taking, however, those only whose subsequent history is known, all but one recovered or very greatly improved when their diet was rectified, and these were more than half of the whole number seen. The total number is too *small, it is true,* to draw any very large or confident conclusion from, *but* as far as they go they show, among those as to whom the result *is known*, a rate of between 94 and 95 per cent of recovery or of very great improvement, and this is too striking to be *ignored*

Application of our second principle, that of constancy in the association of the effect with the possible cause, does not yield such a favourable result It is certain that the positive association of an excess of fats or carbohydrates, or a deficiency of meat, in the diet with mental disease in the consumer is not constant The denizens of Arctic climates, who live largely upon blubber, are not known to suffer disproportionately from mental disease, nor are those considerable populations of Eastern countries who live upon an exclusively vegetarian diet, but then it is clear that the circumstances are not the same, and no principle of logic is more important, though it is not mentioned by Aristotle *nor* acknowledged by professors of logic than that circumstances alter cases That indulgence in fat which may be disastrous to the dweller in a temperate climate need not be anything but beneficial amid eternal ice and snow, and that abstinence from meat which may be fatal to an individual or a member of a race that is accustomed to a carnivorous diet may be innocuous to one who and whose ancestors have never tasted meat. Moreover, there can be little doubt that what is harmful in the absence of meat is the absence of protein, and this may be made up by consumption of vegetable proteins.

Nor is the negative association in the least degree constant. There is abundant experience that mental disease is by no means confined to those who indulge excessively in fats and carbohydrates and those who refrain from eating meat.

The third principle cannot be applied for want of data. When there are a great many people who suffer from mental disease, and in the same population a great many who commit these errors of diet, the doctrine of Probability assures us that there must be some in whom the two will be combined casually, and among the cases recorded No. 13 seems to be such a case. But it is quite impossible to apply this principle, and to discover whether or no the combination of mental disease with error in diet is more than casual concurrence will account for, until we know (1) the total population, (2) the number of cases of mental disease, and (3) the number of cases of error in diet, in the population. In the absence of data no conclusion can be drawn.

The fourth principle, however, is more fertile in results. It assures us that if a certain change in a thing follows, though only occasionally, an action on that thing, then, although from the mere occasional sequence we are not justified in calling the action the cause of the change, yet if in each case of the sequence the change exhibits a constant character, we may then properly infer that the sequence is causal. To take a cognate instance: insanity follows, though only occasionally, excessive and prolonged drinking of alcohol, but since insanity often occurs without this antecedent, and since the antecedent often occurs without insanity following, it would be quite unjustifiable to assert, on the mere ground of antecedence and subsequence, that the drinking was the cause of the insanity. When, however, we find that whenever insanity does follow prolonged and excessive drinking the insanity always has certain peculiar characters, which are never found in insanity otherwise occurring, the case is different. This constant quality in the result does justify us in presuming that the constant antecedent of that quality is the cause of the insanity. Can we then apply this principle to the cases before us? I think we can. Here it becomes necessary to separate the two factors of excess of fats and carbohydrates on the one hand and defect of meat on the other, and to consider each by itself.

If the cases in which an excess of fat was consumed are examined it will be found that whatever other symptoms they complained of, they all suffered from severe headache. This is not a new observation. The connexion has been thoroughly established by Dr. F. Hare in his excellent book on the "Food Factor in Disease." The cases here adduced are a mere addendum to his observations, and pretend to no originality. They are, however, of value as corroboration by an independent observer of his views. While, however, the headache is the most prominent and troublesome symptom in these cases, it is not the only one. It is well known that attacks of migraine are often accompanied by mental confusion, and it appears from some of the cases here recorded that excess of fat in the diet is accompanied in them by confusion of mind, which occurs even at times when the patient is not suffering from headache. There is no case among those here recorded in which headache was complained of when there was no excess of fat in the diet. From this it must not be supposed that I suggest excess of fat as the only cause of headache; I suggest merely that deficiency of meat alone is not a cause of headache.

It seems, however, that it is a potent cause of *confusion of mind*. In case after case in which the diet was subsequently found to be deficient in meat the mental state is described in almost or quite the same terms: "I feel muddled and dazed", "A wave of confusion comes over me", "I am so muddled about my work", "I have such confusion in my mind", "I feel half dazed, and don't know what I am doing", "My mind is confused", "My head is in a muddle", "I cannot think", "I have a muddled feeling in my head", "I cannot apply my mind to anything", "I am half silly", "There is something in my head that causes everything to be jumbled up", and so on.

Depression is almost as common, and is in some cases very severe. In several cases it led to contemplation of suicide, and in one to repeated attempts; perhaps, since they were repeated, they were not very determined, but still they were attempts.

Screaming fits and motiveless weeping and laughing occurred in several cases among the women.

Defects of memory, especially of the business memory—that is to say, forgetting to do things at the proper time—was noted in several cases. It is a part or a form of the mental confusion.

In three cases there were hallucinations and in one of these the hallucinations were extraordinarily vivid, and were of sight and hearing coördinated. Case 14 would of itself serve as a text for a discourse upon the origin of ghosts and the nature of ecstatic visions, of celestial visitors, of supernatural revelations, and so forth. It is unfortunate that I was unable to follow up this case, and I may say that its very peculiar character makes it doubtful whether the mental state owed any of its origin to the diet, which, however, was certainly very defective. On the other hand, it could be urged that Cases 17 and 20 are halfway houses on the road to the same destination.

Many other inferences can be drawn from these cases, and there is one inference that will certainly be drawn, however much I may deprecate it and protest against it, and that is that I have asserted that every case of mental disease is due to excess of fat or to deficiency of meat in the diet. I make no such assertion. Obviously the cases here related form but a small proportion of those that have come under my notice since I first began, several years ago, to investigate the diet of my patients. In only a small proportion of cases could I find any definite fault in the diet, and where a fault existed, it was not always excess of fat or deficiency of meat. It surprised me to find in how many cases people live very largely on milky puddings, and I was in doubt in many cases how far the symptoms were due to deficiency of protein, and how far they were due to excess of starch and sugar. In Case 27 I have little doubt that much was due to excess of starch, and I always made a point of inquiring into the relative proportions of all the constituents in the diet.

A word may be said as to the method of inquiry. In this, as in all things, it is most important to avoid leading questions in opening the examination. My practice is to ask, What do you have for breakfast? and so on for each meal. The next question is, Is there anything to eat that you are particularly fond of? Meat? Sugar? Fat? Milky puddings? Then, Is there anything you particularly dislike? It is important to remember that people do not reckon butter as fat. Many patients declare that they dislike fat, and never eat it, but when the question is put to them, they will admit an inordinate fondness for butter.

It should be remembered also that there are wide differences in the capability of different persons to dispose of the fat, starch, &c., that they consume, so that what is moderation for one may be gross excess for another.

A point that, to economise space, is not brought out in the cases here recorded is that those symptoms that seem to be due to excess of fat, starch, and sugar in the diet, and that are relieved by diminishing these constituents, are almost always worse in the morning, clear up towards afternoon, and are often absent in the evening. Hence I never omit to inquire, What time of day are your symptoms worst? and whenever I hear that they are worst on waking in the morning and diminish as the day goes on, I make very stringent inquiry into the diet, no matter what the symptoms may be.

Finally let me assert once more that I do not hold that there is only one cause of mental disease. If I did so hold I should be little better than a psycho-analist. My contention is, and I think it is borne out by these cases, and by the application to them of the true principles of ascertaining causation, that in a certain number of cases of mental disease, small in proportion to the whole, but considerable in the aggregate, the disease is due to error in diet, and can be cured by rectifying the error in diet.

THE LOWER UTERINE SEGMENT, ITS ORIGIN AND ITS BOUNDARIES.[1]

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THE lower uterine segment, its origin and its boundaries is a subject which has held for gynæcologists of the nineteenth century an absorbing interest. The most eminent specialists endeavoured with the greatest assiduity to solve the problem, and yet the present century opened with the mystery still unsolved.

What is the uterine segment? At what period does it make its presence apparent? Is it caused by a stretching of pre-existing tissue, or is it an entirely new growth? From what pre-existing tissue does it arise? Whether from the structures above the internal os or from the cervical tissue below it? These are the questions which call for an answer.

Modern gynæcologists have lost interest in the anatomical entity, not that their knowledge is any more precise than that of their predecessors, but rather from a conviction that the subject has been talked out and that they have no further available material to enable them to form any definite opinion. In this I think they are mistaken, for the controversialists of the past did not appreciate the importance of the endo-peritoneal tissue, which we now know divides the body of the uterus from its cervix and forms an impenetrable barrier between the two. Whether this tissue be derived from the base of the parametrium or from the pelvic fascia seems a point of secondary importance. What concerns us chiefly is that it exists, that it is very strong, that it crosses the pelvic inlet and supports the contents of the abdomen, that it is inserted into the muscle fibres of the uterus and, in fact, becomes their tendinous extension (this accounts for its richness in unstriped muscle), and that it fixes the uterus and forms the angle of the internal os—"the fixation hinge."

It is unnecessary for me now to enter into a detailed account of this structure. I have done so on two former occasions. Our President too, has admirably reviewed its anatomical bearings.[2] Again, the brilliant results of the modern operation for the cure of prolapse by the shortening of what are know as Mackenrodt's ligaments have made any further remarks of mine superfluous, and it is no longer needful to prove what I am sure all admit is a self-evident fact. It is certain that it constitutes the true boundary between the cervix and the body of the uterus and we can no longer accept the artificial demarcations which were relied on by our predecessors.

This diaphragm depends for its tension on the tone of the uterine muscles. With a tightened internal os the fibres become taut; with a relaxed os they sag. One of the earliest phenomena of pregnancy is slight dilatation of the internal os. This sign is difficult to demonstrate and has not, so far as I know, been described. Its presence is at once apparent when a sound is passed into the uterus, and so true is this that the phenomenon should be sufficient to arouse suspicion as to the true condition present. The relaxation of the sphincter brings about the changes which we associate with Hegar's "early sign of pregnancy." The interdependence which exists between the circular fibres of the internal os and the endo-peritoneal tissue is also noted by the great tightening of the os which is observed in cases of procidentia. The sagging of the diaphragm is followed by slight dropping of the uterus and shallowing of the lateral fornices. This tendency to prolapse is soon arrested by the power of the uterine fibres to make again the fascia taut. This they do by their continuous retracting force. Retraction is a law of all unopposed muscle fibres, and the uterine fibres are no exception to this rule. When the tension at their insertion is relaxed, consequent on the opening of the os, they retract. By this mechanism the internal os is gradually pulled upward and at the same time it opens more and more, so that the opening of its attached fascia may be compared to the swinging inwards of folding doors. Towards the later months of pregnancy the growing ovum is no longer able to accommodate itself within the body of the uterus and must move downwards through this naturally provided hernial opening; in fact we may consider the mechanism as constituting the most complete illustration of a hernial process within the body.

Before we consider the changes which arise in the cervix as a result of direct pressure now exercised on it by the ovum, let me summarise the points which are at present established.

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[1] A paper read before the Obstetrical Section of the Royal Academy of Medicine in Ireland.

[2] Transactions of the Royal Academy of Medicine in Ireland, Obstetrical Section.

1 The endo peritoneal tissue forms an important diaphragm for the pelvis

2 Its fibres are inserted into the muscle bundles of the uterus and may be considered the tendinous extremities of the latter

3 The diaphragm is held in tension by the uterine muscles, it supports the uterus, prevents descent of the contents of the abdomen, and constitutes a barrier which effectively protects the cervix from pressure

4 The os internum opens at an early period of pregnancy and this relaxation corresponds with Hegar's "early sign of pregnancy"

5 Consequent on this opening the uterus and abdominal contents sag downward and the fornices become somewhat shallowed

6 The uterine muscle fibres are put out of tension by the opening of the os with consequent contraction and retraction of these fibres and the upward movement of the diaphragm with its attached blood vessels and ureter This upward movement produces a still wider opening of the diaphragm and will permit the growing ovum to pass through it and allow the latter to exercise direct pressure on the structures immediately beneath To this structure I now desire to call attention, for many erroneous impressions have arisen in connexion with the cervical portion of the uterus It is spoken of as a structure which is easily dilated and stretched, and in proof of this the text books adduce the extraordinary elongation of the tissue which occurs in procidentia uteri It is certain that this lengthening is not due to any stretching action, and, indeed, the cervix is a tissue which does not easily tolerate a stretching force All have experienced the difficulty in procuring slight dilatation by means of graduated metal dilators Even in labour the cervix cannot be forcibly stretched save within narrow limits Again, I have seen it pulled with vigour by volsella forceps during a two hours' operation without displaying any appreciable elongation If the elongated cervix of prolapse were really a process of stretching it would be pulled thin as a piece of twine, instead, it remains of normal thickness, no matter how greatly it is strained We must, then, conclude that the cervix is not a stretchable structure but, on the other hand, that it has a power of extraordinarily rapid growth when stimulated by continuous pressure

In a case reported by Dr Henry Jellett a small cervical stump left after the performance of a subtotal hysterectomy was firmly stitched to the aponeurosis of the abdominal wall in an effort to cure prolapse It remained fixed in this position, but prolapse recurred and it was of so extreme a nature that the os protruded for many inches through the vulva. This enormous elongation was not accompanied by diminution of its diameter, but rather the reverse, and in this instance the increase of the cervix must have amounted to about fifteen times its original size Further, let it be noted that the vaginal portion of the cervix when not subjected to pressure does not enlarge

The similarity in the growth of the cervix as described above with that of the growth of the lower uterine segment is very apparent, and now that we know that the ovum during the second half of pregnancy is certainly pressed against the upper portion of the cervix we have no difficulty in following its subsequent development into the part known as the lower uterine segment So long as it was supposed that the lower uterine segment arose by a stretching or unfolding process, an insuperable objection seemed to be forthcoming to the belief that it arose from the cervix through the fact that the cervix did not diminish in length materially throughout the pregnant state That the cervix does diminish to some extent all competent authorities are now agreed, and it is clear from the evidence already advanced that it will only require a very minute portion of the upper part of the cervix to suffice for the growth of the lower uterine segment We see, then, that the ring of Müller must be considered the undilated portion of the cervix which has as yet not been subjected to direct pressure, and Bandl's retraction ring must consist of the structures which go to form the internal os

The subject under review has a practical importance both for the obstetrician and the gynæcologist We no longer should consider the stretching and dilatation of the cervix as synonymous terms We must think of the cervix as growing rapidly large rather than of its being rapidly stretched It, in common with every other tissue of the body, stretches, no doubt, to a certain extent The stretching process works within narrow limits, and is absolutely dependent on the margin of its previous growth This, too, is true of the lower uterine segment The gynæcologist on his part must once and for all dismiss the notion that the retention of the cervical stump tends in any way to strengthen the pelvic diaphragm, and must realise that an abdominal operation undertaken for prolapse may fail in its purpose if the cervix be retained

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A SEARCH FOR TYPHOID CARRIERS AMONG 800 CONVALESCENTS

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IN the late months of 1914 and early months of 1915 a serious epidemic of typhoid had occurred amongst the civilian inhabitants of an area about to be taken over by British troops To diminish the risk of the epidemic spreading to the coming troops the sanitary officers of the R A M C advised that the civilians then ill and those convalescents who could be found should be removed to an isolation hospital some distance away and kept there till proved free from infection The following is an account of the attempt to eliminate the carriers before the patients were discharged

The patients were searched for in their homes by search parties under direction of the R A M C authorities, removed to local hospitals organised by the Friends Ambulance Unit, and when in a condition to travel removed to the isolation hospital Owing to this method a large majority arrived at the hospital convalescent, and the diagnosis had to rest on the history provided by the unit and agglutination reactions Very few of the first parties of patients arrived in the acute stage Thus, an accurate idea of the actual numbers who had suffered from enteric was difficult to obtain, and further, it was not easy to estimate the relative proportion of true typhoid to paratyphoid B infections This difficulty was increased as many of the patients had been inoculated with stock army vaccine, many others had been treated with mixed typhoid group vaccines while ill, and very few knew if they had or had not been inoculated Of 927 admissions it was estimated that 117 had certainly not had typhoid, but had suffered from tuberculosis, diphtheria, or bad food

Diagnosis

A bacteriological diagnosis was definitely obtained in only 165 cases, the infecting organism being isolated from the blood, excreta, rose spots (10 cases), and from the gall bladder of some that came to necropsy B typhosus was found in 145 cases, B paratyphosus B in 19 cases, and B paratyphosus A in only 1 case The proportion of 7 cases of B Eberth infection to 1 paratyphoid B is possibly correct for the earlier part of the epidemic, but the cases admitted during the later stages showed 4 B Eberth to 5 paratyphoid B

In the remaining cases the diagnosis depended on agglutinations These were done microscopically, and after 20 minutes' incubation were examined with a dark ground illumination, this method giving very clear cut readings Any serum that gave a negative or doubtful reaction to B Eberth was tested against B paratyphoid B A dilution of 1:100 of the serum giving a well marked reaction was considered sufficiently high for B Eberth, and 1:250 to 1:500 for B paratyphoid B was read as positive Later on as the facilities developed macroscopic agglutinations as recommended by Dreyer were used with success, and positive reactions were obtained in very much higher dilutions, 1:1000 to 1:2500 in patients convalescent from B Eberth infections, and 1:5000 to 1:20,000 in B paratyphoid B Any uninoculated patient who gave a negative agglutination reaction was excluded. Those inoculated before admission as convalescents, and in whom it was not possible to exclude enteric from their history, were included as probable cases and examined before discharge This would lead to a certain number of inoculated patients who had not suffered from enteric being included, and therefore the percentage of carriers found would appear low, but in the presence of a widespread epidemic it was considered wise to err on the safe side

Examination before Discharge

The patients were examined at varying periods of convalescence Until the number awaiting discharge had been dealt with, the majority were not examined till the 10th to 16th week after commencement of the illness, but as the accumulation was worked off they were examined at any time after defervescence that the medical officer in charge regarded them as fit for discharge

The excreta of patients, both fæces and urine, were invariably examined before their names were put on the discharge list, and the following is a note on the technique

Technique—During the first three weeks considerable difficulties existed owing to the lack of a laboratory at the hospital, entailing the transport of specimens a considerable distance and preventing their examination in a perfectly fresh state When the necessary equipment arrived and the laboratory was opened at the hospital the patients were given the night before examination a purgative, and the specimen was brought to the laboratory as soon as possible The specimens were generally all available by 9 A M Any specimen arriving after 11 A M was refused as it was thought that the patient might have been constipated and it would not present a fair chance of finding enteric group organisms It is a well established fact that prolonged delay in the colon gives the B coli group the opportunity to outgrow B Eberth

The technique varied as our experience grew and as the results suggested modifications At first owing to the very large accumulation of convalescents a single examination only was possible in each case. This was done by direct plating of the stools on several MacConkey plates In this way 137 patients were examined and liberated after one examination We then adopted Browning's brilliant-green technique and examined the excreta on two occasions as often as possible on two consecutive days It was thought that with two purgings we would be more likely to obtain a specimen which had not been unduly delayed in the colon A thick emulsion of the stools was made in water, and after the solids had settled to the bottom, in about 20 minutes, the brilliant-green tubes were inoculated with the supernatant fluid, about five or six large loops being used for each tube At first we used four dilutions, 0·25 0·4, 0·5, and 0·6 c c. of 1:10,000 solution of brilliant green being added to 10 c.c. tubes of 2 per cent peptone water The tubes were incubated for 24 hours and plated on Endo's fuchsin-agar, being examined after 20 hours' incubation The results were satisfactory but the technique was very laborious Further, it proved that when a carrier was found the best dilution was 0·5 c.c of brilliant-green solution, in some cases the culture being pure About 100 examinations were done in this way, and then we determined to try direct plating After a further 100 examinations we concluded that we would get the best results by combining the two methods with a slight modification of the technique originally recommended by Browning

The usual thick emulsion was made and allowed to settle Then six large loops of emulsion were transferred to one tube of peptone water with 0·5 c.c. of 1:10 000 brilliant-green added This was incubated for 8 to 10 hours and then replated on Endo's medium, the plate being examined at the end of 20 hours At the same time one plate was spread from the emulsion, a very small loop being spread in successive quadrants of the plate The plates were examined with a lens and all likely colonies pricked off into lactose, mannite, saccharose, and broth. The broth tube was examined for motility and, if the sugar reactions were those of the typhoid group for agglutination with the specific sera. We used the sera supplied by the Lister Institute and at one-half their extreme titre. Eberth serum of a titre of 1:2000 was diluted so as to give a dilution of 1:1000 in the agglutination preparation. At this dilution we never experienced any difficulty from cross agglutination or the presence of group agglutination The sugar reactions being positive and the agglutination good we placed the organism in the typhoid group and regarded the patient from whom it was isolated as a temporary carrier, the further sugar and milk reactions being started as a final confirmation. Litmus whey agar proved a most useful medium, and with it we found it possible to get the milk reactions in 36 hours instead of waiting four days

No abnormal strains were found among the Eberth strains isolated, they all were motile and easily agglutinable. The paratyphoid A did not form gas on mannite or glucose in Durham tubes but when planted in solid glucose-agar it made gas abundantly One paratyphoid B strain was apparently self-agglutinating and in broth culture appeared as large clumps with some motile forms the clumps being themselves motile

Carriers Found

An arbitrary period of three months after the first onset of the fever is taken as the time when a patient should have ceased to excrete typhoid bacilli Patients excreting up to that time and not after are regarded as temporary carriers, if they continue to excrete after that time they are regarded as chronic carriers We quote, for the sake of comparison, Klinger's figures for the examination of 604 convalescents —

Temporary intestinal ..	70 or 11·0	per cent
Temporary urinary	10 or 1·7	,,
Chronic intestinal	6 or 1·0	,,

Our figures were as follows for 810 cases examined, of which some probably had not enteric, as explained above, and many were not examined in the "temporary carrier period —

Temporary intestinal	32 or 4·0	per cent
Temporary urinary	33 or 4·0	,,
Chronic intestinal	11 or 1·6	,,
Chronic urinary	2 or 0·24	,,

These carriers were divided as to sex as follows —

Temporary Carriers

		B Eberth	B para B	B para A
Male, intestinal	13	8	5	—
Female, ,,	19	12	6	1
Male, urinary	24	24	—	—
Female, ,,	9	9	—	—

Of these temporary carriers there were only 3 who persistently excreted after the primary examinations, and these eventually became chronic carriers The sex distribution was as follows —

Chronic Carriers

		B Eberth	B. para. B
Male, intestinal	3	3	—
Female, ,,	8	3	5
Male, urinary	2	2	—
Female, ,,	—	—	—

The well known fact that females more often become chronic carriers than males is well shown in these figures, the incidence of female chronic carriers being nearly three times that of males.

All carriers discovered at the first or second examination were kept under supervision in the hospital and examined at weekly intervals Two examinations were done on successive days until they should have ceased to excrete typhoid bacilli Six consecutive negative examinations were required as the standard before the patient was deemed fit for discharge One carrier, who eventually became a chronic carrier, had a period of intermission, being negative on five successive occasions, but on the last before discharge B Eberth was again found After this intermission she continued to excrete quite regularly for three months. The other chronic carriers were easily detected at each examination No patient was found excreting B paratyphoid B in the urine either in the acute or convalescent stage of the disease Among the female intestinal carriers, of which there were 19, 6 were found on the second examination, the first having been negative The second examination was done on the second successive day of purging, which indicates the importance of getting a specimen which has undergone as little intestinal delay as possible

Comparison of the Two Methods of Examination

In comparing the two methods used it would require a very large number of examinations to come to a conclusion as to their relative merits The following is a short summary of 26 carriers found while we were using the two methods in conjunction —

		Direct plate	Brilliant green plate.
B Eberth	16	15	14
B paratyphoid B	11	3	8

This leaves out of the picture the relative ease of the two methods so far as finding the colonies The balance from this point of view is strongly in favour of the brilliant green method, in which it was common to get a practically pure plate of the typhoid group organism On the other hand, B Eberth seems more susceptible to the action of brilliant green, or it may be that its relatively slower rate of growth does not allow it to take advantage of the lowered competition as quickly as the faster growing paratyphoid B At any rate, we did not so often get a pure or nearly pure plate with B Eberth, and in some cases we obtained negative results when the direct plate had been positive Some typical cases are shown here in their successive examinations

B Eberth

		Direct plate	Brilliant green plate
(1)	14-4 15	Positive	Negative
	15-4-15	,,	,,
	7 5-15	,,	Positive
	8-5-15	,,	,,
	31 5-15	,,	Negative.
	1 6 15	,,	,,
	26 6-15	,,	,,*
(2)	27 5 15	10 colonies	Negative
	4-6 15	8 ,,	Pure growth.
	5-6-15	Numerous.	,, ,,
	8-6-15	,,	,, ,,
	9 6 15	40 colonies	60 colonies
	10 6 15	Numerous	6 cols 24 } hours Neg 36 } incub
	13-6-15	Pure growth	Negative
	15-6-15	Negative	,,
	19 6-15	Positive.	,,
(3)	4 6-15	?	Pure growth
	7-6-15	6 colonies	,, ,,
	9 6-15	Almost pure.	Numerous.
	10 6-15	6 colonies	6 cols 24 } hours Neg 36 } incub
	14 6-15	Negative	Negative
	15 6-15	Few colonies	,,
	16 to 19 6 15	,,	,,
		Paratyphoid B	
(4)	3-5 15	Negative	Negative
	4-5 15	Positive	Positive
	31 5-15	Negative	Pure culture
	1 6 15	,,	,, ,,
	26, 28, 29 6-15	,,	,, ,,
	14-7 15	3 colonies	,, ,,

* In four dilutions of brilliant-green

This series of 4 cases shows well the advisability when possible of combining the two methods In each case the plates were examined by the same observer and the technique was identical, yet the variability of the results is marked It further confirms the contention that it is better to incubate the brilliant green culture only nine hours, as after that, at least with B Eberth, the organism is sometimes overgrown We never found this in the case of paratyphoid B in which the brilliant green plate was generally very much the better, often showing a pure culture

Treatment

As to the treatment of the intestinal carriers, which has always been a very difficult matter, we only tried two experiments Arsenic in the form of Fowler s solution having been found to be useful in eliminating B Eberth from the stools, we thought that possibly the intravenous administration of salvarsan would give a better chance of getting the arsenic to the site of growth of the organisms—i e, the gall bladder and bile ducts and capillaries Accordingly two intestinal carriers were given 0 3 grm intravenously It did not alter their condition in the least, as they both continued to excrete for some time afterwards

Of the temporary urinary carriers only 2 of the 33 found became chronic carriers The 33 temporary carriers were treated with urotropin for about 10 days, and then after an interval of one week were re examined All consistently proved negative on four consecutive examinations The 2 who excreted bacilli after the 12th week from commencement of the illness, and in one case up to the 20th week, both suffered relapses in a late period of convalescence They both continued to excrete up to the 8th week in one case, and the 10th week in the other, after the inception of the relapse They were both apparently benefited by the treatment so that we give it in detail

CASE 1 —Aged 13 Illness commenced 26-1 15, admitted on 37th day Widal positive to B Eberth Relapse 12 h week Defervescence complete on the 12th day Urine contained B Eberth on the following dates 14 18 29-4-15, 25 28 5-15, 13-6-15 He had been through the routine course of urotropin during the period of these examinations 15-6-15 Urine positive, no albumin. 16 6-15 500 mill. stock army vaccine Reaction Local, well marked, general, slight temperature, 98 8° F, focal, cloud of albumin, culture positive 17 6 15 By mouth, 6-hourly, urotropin 10 gr, ac sodii phos 20 gr, ac boric 3 gr Subsequent examination of the urine was as follows 17, 18, 19, 21, 22 23-6-15 Decreasing albumin and colonies 24-6-15 Negative to albumin and culture sterile 25 6-15 1000 mill army vaccine, mixture discontinued 27 6 15 Five colonies, no albumin Examinations were always negative on the following dates 1, 2, 3, 6 13 15-7-15.

CASE 2.—Aged 67 Illness commenced 25 2-15, relapse 7th week. B Eberth found in the urine on following dates 24-5-15, 3, 8, 14-6-15 During this period he had the routine administration of urotropin 16-6-15 1000 mill. army vaccine Reaction Local, slight, general, marked, temperature 101 8° F, focal heavy cloud of albumin, erythrocytes and leucocytes in deposit, frequency for 24 hours 17 6-15 Culture positive, mixture ordered 19, 18-6-15 Culture negative and albumin decreasing 25-6-15 1000 mill vaccine, no reaction, mixture discontinued Subsequent examinations were consistently negative on the following dates 26-6-15, 1 6 12-7 15 The albumin never reappeared after 20 6 15, four days after the first dose of vaccine

These two cases were apparently benefited by the treatment, as after they had recovered from the focal reaction, which was marked in both, they ceased to excrete B Eberth The presence of the rather marked focal reaction is also suggestive and leads us to hope that there is perhaps a better chance of getting rid of the renal focus in urinary carriers with a large dose of vaccine than has been attained by the smaller doses

Age Incidence of Carriers

The age incidence of carriers is of interest, and the results bear out the known fact that temporary carriers occur more frequently in the early period of life, and that chronic carriers are most often found among the middle aged Of 350 women over 15 years examined, 8 were found to be chronic carriers, their average age being 45 years This, however, did not appear to hold good among the males, as 2 of the 3 chronic intestinal carriers were under 20 years We give here the list of the chronic carriers and the dates of examination, inception of fever, and age.

Females

No	Age	Onset	Date of examinations.
(1)	29	1-3 15	Pos 14 4 15 and 6 times after, last examination 25-7 15
(2)	46	27 2-15	, 6-5 15 and 6 times to 15 7 15
(3)	46	3 3-15	, 4 5-15 , 8 ,, ,, 18 8 15
(4)	60	14 2-15	,, 25 4-15 ,, 5 , 25-7 15 Intermission for 3 weeks
(5)	35	23 12 14	,, 30-3-15 and 8 times to 25 7 15
(6)	48	26-2-15	, 4 5-15 , 6 , ,, 19 8-15
(7)	53	,	, 27 5-15 ,, 8 ,, , 18-8 15
(8)	50	1 5 15	,, 11-6 15 ,, 5 ,, , 19 8-15

Males

No	Age	Onset	Date of examinations.
(1)	19	19-2 15	Pos 27 5 15 and 10 times to 21 7 15
(2)	16	6-4 15	, 4 6 15 , 10 , ,, 21 7 15
(3)	49	1-4-15	,, 4 6-15 10 , , 21 7-15

It is not possible to give the exact number of women over 40 admitted, but of 810 cases who probably had enteric 43 per cent were women. If that percentage holds good, it would appear that there were 86 women over 40 who had suffered from enteric, as there were just 200 admissions over that age Among these 86 were found 6 chronic carriers, and among the 270 under the age of 40 only 2 were shown to be permanent carriers

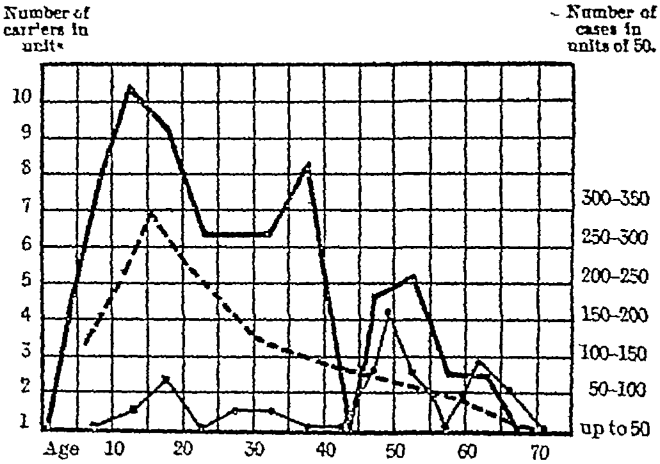

Chart showing age incidence of the epidemic (interrupted line) plotted in units of 50 age incidence of temporary carriers (continuous line) plotted in units age incidence of chronic carriers (dot and dash) plotted in units Age periods of 5 years in each case

The above curves show the age incidence of the epidemic, the figures being for the 927 admissions, the age incidence of temporary and of chronic carriers

In conclusion, we have to acknowledge our great indebtedness to the medical officers of the hospital who did all they could to help us.

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF ODONTOLOGY

War Injuries of the Jaws and Face

MEETINGS of this section were held on Feb 28th and March 6th Members of the Section of Surgery were present by invitation In conjunction with the debate an exhibition of models, skiagrams and appliances was held for several days. Mr H BALDWIN the President of the Odontological Section, was in the chair He briefly stated his views in introducing Mr Lewin Payne, the opener The lower jaw, being the least fixed of all the bones, was, especially when comminuted subject to a strong muscular pull, hence displacement was apt to occur The dental surgeon's aim in the cases under discussion must be to restore the remaining portions to their relative positions to each other, and they must be retained sufficiently rigidly to favour Nature's efforts at repair The apparatus used inside the mouth must be as perfect and neat as possible and offer no impediment to free irrigation of all parts of the buccal cavity Patients wounded in this way were now being sent direct to special hospitals without loss of time He spoke highly of the admirable organisation of dental work in France, from which country several stomatologists of eminence attended the discussion, including Dr Hotz of Paris, while Dr Hayes represented the dental division of the American Ambulance It was regrettable that several distinguished dental surgeons in the army were doing ordinary medical not dental, work. He advocated a Care Committee for soldiers who had been wounded in the jaws, to promote the interests of such cases, not only while they remained in the army but so that when they had been discharged they could continue to receive equally expert treatment

Mr J LEWIN PAYNE, in opening the debate, said that his experience was based upon the treatment of 22 cases and two visits to France. The French had always been

These carriers were divided as to sex as follows —

Temporary Carriers

		B Eberth	B para B	B para A
Male, intestinal	13	8	5	—
Female, ,,	19	12	6	1
Male, urinary	24	24	—	—
Female, ,,	9	9	—	—

Of these temporary carriers there were only 3 who persistently excreted after the primary examinations, and these eventually became chronic carriers The sex distribution was as follows —

Chronic Carriers

		B Eberth	B. para. B
Male, intestinal	3	3	—
Female, ,,	8	3	5
Male, urinary	2	2	—
Female, ,,	—	—	—

The well known fact that females more often become chronic carriers than males is well shown in these figures, the incidence of female chronic carriers being nearly three times that of males.

All carriers discovered at the first or second examination were kept under supervision in the hospital and examined at weekly intervals Two examinations were done on successive days until they should have ceased to excrete typhoid bacilli Six consecutive negative examinations were required as the standard before the patient was deemed fit for discharge One carrier, who eventually became a chronic carrier, had a period of intermission, being negative on five successive occasions, but on the last before discharge B Eberth was again found After this intermission she continued to excrete quite regularly for three months. The other chronic carriers were easily detected at each examination. No patient was found excreting B paratyphoid B in the urine either in the acute or convalescent stage of the disease Among the female intestinal carriers, of which there were 19, 6 were found on the second examination, the first having been negative The second examination was done on the second successive day of purging, which indicates the importance of getting a specimen which has undergone as little intestinal delay as possible

Comparison of the Two Methods of Examination

In comparing the two methods used it would require a very large number of examinations to come to a conclusion as to their relative merits The following is a short summary of 26 carriers found while we were using the two methods in conjunction —

		Direct plate	Brilliant-green plate.
B Eberth	15	15	14
B paratyphoid B	11	3	8

This leaves out of the picture the relative ease of the two methods so far as finding the colonies The balance from this point of view is strongly in favour of the brilliant green method, in which it was common to get a practically pure plate of the typhoid group organism On the other hand, B Eberth seems more susceptible to the action of brilliant green, or it may be that its relatively slower rate of growth does not allow it to take advantage of the lowered competition as quickly as the faster growing paratyphoid B At any rate, we did not so often get a pure or nearly pure plate with B Eberth, and in some cases we obtained negative results when the direct plate had been positive Some typical cases are shown here in their successive examinations

B Eberth

		Direct plate	Brilliant-green plate
(1)	14-4 15	Positive	Negative
	16-4-15	,,	,,
	7 5-15	,,	Positive
	8-5-15	,,	,,
	31 5-15	,,	Negative.
	1 6 15	,,	,,
	26 6-15	,,	,,*
(2)	27 5 15	10 colonies.	Negative
	4-6 15	8 ,,	Pure growth.
	5-6 15	Numerous.	,, ,,
	8-6-15	,,	,, ,,
	9 6 15	40 colonies	60 colonies
	10 6-15	Numerous	6 cols 24 } hours Neg 36 } incub.
	13 6-15	Pure growth	Negative
	15-6-15	Negative	,,
	19 6-15	Positive	,,
(3)	4 6 15	?	Pure growth
	7 6-15	6 colonies	,, ,,
	9 6-15	Almost pure.	Numerous.
	10 6-15	6 colonies	6 cols 24 } hours Neg 36 } incub
	14-6-15	Negative	Negative
	15 6-15	Few colonies	,,
	16 *to* 19-6-15	,,	,,

Paratyphoid B

		Direct plate	Brilliant-green plate
(4)	3-5-15	Negative	Negative
	4-5 15	Positive	Positive
	31 5-15	Negative	Pure culture
	1 6 15	,,	,, ,,
	26, 28, 29 6-15	,,	,, ,,
	14-7 15	3 colonies	,, ,,

* In four dilutions of brilliant-green

This series of 4 cases shows well the advisability when possible of combining the two methods In each case the plates were examined by the same observer and the technique was identical, yet the variability of the results is marked It further confirms the contention that it is better to incubate the brilliant green culture only nine hours, as after that, at least with B Eberth, the organism is sometimes overgrown. We never found this in the case of paratyphoid B in which the brilliant green plate was generally very much the better, often showing a pure culture

Treatment

As to the treatment of the intestinal carriers, which has always been a very difficult matter, we only tried two experiments Arsenic in the form of Fowler s solution having been found to be useful in eliminating B Eberth from the stools, we thought that possibly the intravenous administration of salvarsan would give a better chance of getting the arsenic to the site of growth of the organisms—i.e., the gall bladder and bile ducts and capillaries Accordingly two intestinal carriers were given 0 3 grm intravenously It did not alter their condition in the least, as they both continued to excrete for some time afterwards

Of the temporary urinary carriers only 2 of the 33 found became chronic carriers The 33 temporary carriers were treated with urotropin for about 10 days, and then after an interval of one week were re examined All consistently proved negative on four consecutive examinations The 2 who excreted bacilli after the 12th week from commencement of the illness, and in one case up to the 20th week, both suffered relapses in a late period of convalescence They both continued to excrete up to the 8th week in one case, and the 10th week in the other, after the inception of the relapse They were both apparently benefited by the treatment so that we give it in detail of efficient treatment In reference to the chief point around which the discussion had centred, whether bony union, with defective occlusion, should be sought after, or fibrous union with more perfect occlusion, he did not incline to the former view, moreover, in so many cases was there serious loss of substance that bony union could not reasonably be hoped for, only in the slighter cases in which the error in occlusion was not likely to be serious He agreed with Mr Stanley Mummery as to the good results obtained by steady continuous pressure He considered that the fixed cap-splint was only desirable under two opposite conditions one in which there had been a considerable loss of parts and that in which the loss of bone or tissue was but slight He related some interesting cases

Mr F J BENNETT expressed the hope that teeth removed under war conditions would be carefully preserved for future examination as to the healing of the pulp after severe injury He believed this would result in advances of knowledge on the anatomy of the teeth

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Mr F J PEARCE expressed the thanks of the section to their French confrères for the cordial reception of dental surgeons in France He believed Mr Lewin Payne's classification provided a very useful working basis for the cases now being encountered He thought it should be made clear that when Mr Colyer spoke of sacrificing the teeth on either side of the fracture, he was referring to delayed cases, otherwise the procedure would not commend itself to the speaker He wished particularly to support the contention that the services of the dental surgeon should be sought as soon after the infliction of the jaw injury as possible The treatment could be advantageously begun much earlier than the odontologist had previously thought possible There was no disparity of opinion as to the need of segregating the kind of cases under discussion into special hospitals

Mr H W TURNER referred to the great efficacy of Dakin's solution as a powerful antiseptic, and particularly the even more efficient chloramine In the case of men who had been much exhausted by fighting, nothing operative should be done until as much of the infection as possible had been got rid of by means of antiseptics When a fracture had occurred behind all the teeth, he advocated the use of a removable cradle splint In cases of much loss of tissue, one must look to the surgeon to do plastic operations There should not be too great a readiness to blame surgeons when contracted mouths were seen as there may not have been any possibility of performing a plastic operation There seemed to be a useful field for bone grafting in severe cases He concluded by discussing the physiology of bone union

Mr LEWIN PAYNE replied on a number of the points raised in the discussion, and in order to emphasise the importance of early dental treatment showed a series of striking photographs

HARVEIAN SOCIETY OF LONDON

Discussion on the Treatment of Gunshot Wounds

A MEETING of this society was held at the Stafford Rooms, Titchborne street W, on Feb 24th, Dr EDMUND CAUTLEY, the President, being in the chair

Sir BERKELEY MOYNIHAN in introducing a discussion on the Treatment of Gunshot Wounds said the problem of the treatment of these wounds was one which had been profoundly altered by the experience derived during the present campaign The new and unexpected features were dependent upon a set of circumstances different in kind from anything which surgeons had known before These features included the character of the bullet in respect to its mode of flight, its velocity, the damage it inflicted on the parts, the quality of the infection derived either from the earth or from the patient's clothing which was far more virulent than anything that surgeons in the present generation had experienced, and in the earlier stages of the war, at least, the conditions of the patient in respect of fatigue and anguish which were such that he fell a very easy victim to the furious bacterial onslaught In the early literature of the war a good deal was said about failures failure of the antiseptic system, failure of the aseptic system, and about the upheaval which threatened the position which Lister had held in all minds On returning from France he went over again Lister's papers to see how he had met the concrete problems with which he was faced 50 years ago, finding in so doing that Lister stood in no need of defence to-day The new set of circumstances had reference partly to the flight of the bullet. The bullet had several different movements a forward movement, a rotation round its longitudinal axis, and a curious movement which the French called a *mouvement de basoule*, which, he was told, those standing behind a shell in its flight could see The apex of the bullet travelled steadily while the base twisted round in a circle of gradually diminishing extent until it came to an end at about 800 yards The soil on which the campaign was still being fought was some of the most highly cultivated in the world, for generations it had been heavily manured and therefore contained fæcal organisms from horses, cattle, pigs, and poultry In this discussion the quality of the wound inflicted, as well as the kind of bacterial implantation in the surface wound, must be remembered When a bullet struck soft tissues it was probably arrested at its tip sufficiently to allow the heavier base with its greater momentum to catch up with the apex, so that a rolling action of the bullet ensued, giving an explosive effect The torn muscles retracted unequally, resulting in little recesses and cavities in the wound Lakes of serum were shut off completely, and if infected a very prolific growth of bacteria took place there The projectile imparted some of its terrific momentum to substances which it struck, portions of bone which received the impact becoming themselves in a sense projectiles, and being hurled into the surrounding tissues Portions of microbe-saturated clothing carried in by the bullet impregnated the wound with these organisms In treating such wounds the petty little methods in use for civil cases before the war were utterly inadequate In pre war days it was common to apply tincture of iodine or carbolic acid to the wound, but so little effect was produced by them in wounded soldiers that by the time the base hospital was reached it was impossible for the surgeon to say what application, if any, had been made to the wound The question of gunshot wounds should be approached from two points of view The first was the prevention or control of infections at the earliest possible moment after the infliction of the wound, the second was the abolition or reduction of an infection which had already been set going. Before considering those aspects, however, there were certain preliminary matters to clear out of the way First, with regard to the excision of gunshot wounds This, of course, was the ideal method If an infected wound could be excised, so that only clean raw surfaces were left, which it was safe to bring together by suture, then the wound would heal by first intention, it was the kind of wound which the surgeon made deliberately at an operation But this was impossible in most cases, though it had been done for many penetrating wounds of the knee-joint, of the scalp and of the abdomen Colonel Gray, now at Rouen, had practised the method in many cases and placed much reliance on it. He next wished to insist that all wounds, wherever they occurred, must be treated with a certain ritual The skin must be cleaned, loose fragments of clothing, coins which had been carried in from the pocket, fragments of bullet, bits of leather, should be taken out at the earliest possible moment, and efficient drainage established He believed that too little regard was paid to the adequate preparation of the skin The favourite method of preparing the skin around a gunshot wound was to paint it with iodine He had seen tincture of iodine painted on over dung and dry earth, and an operation then carried out in the firm belief that something effective had been done to secure sterilisation of the skin To sterilise skin was always a difficult matter, to keep skin sterile for half an hour was an almost impossible matter And one of the most ineffective methods of preparing the skin for operation or when a gunshot wound was to be treated, was the painting of it with any form of iodine, of any strength, with any degree of frequency, and under any circumstances whatever It was an entirely ineffective and futile method, and, worst still it bred a certain kind of superiority in the mind of the surgeon If by the application of an ineffective substance like iodine to noted for their dental skill, and it would be difficult to exaggerate the completeness of their dental organisation in connexion with the war, or the benefits being afforded to their wounded soldiers In our own country excellent work was being done on the same lines at Croydon and Wandsworth military hospitals The severe fractures of maxilla and mandible caused by rifle bullets or shells differed from civil cases of jaw injury in the frequency of the occurrence of multiple fractures, comminution of bone, loss of substance, degree of displacement of fragments, the frequency of foreign bodies (such as a piece of tooth or bone or denture), and by the cicatrisation of soft tissue, which frequently led to the elimination of the buccal *sulcus* The chief trouble in these cases was *associated* with the mandible, the most-used bone in the *body* The *mere use* of bandages for external application would *seldom* correct the deformity He *suggested a classification* on clinical findings into the following *six* groups (1) Fractures of mandible without *displacement* of the line of occlusion, (2) *single fractures* of mandible with lateral displacement, (3) *single fractures of* mandible with vertical displacement, (4) *two or more* fractures of mandible with loss of substance, (5) gunshot wounds of maxilla, (6) fractures involving loss of the anterior portion of the mandible, the maxillæ, or the whole of one side, together with the soft tissues adjacent It was not surprising to find a great variety of method, because the number and diversity of the cases now seen compelled the breaking of new ground He urged that the dental surgeon should be called in as soon as possible after the infliction of the wound. Even if it were too early to apply a splint or any apparatus he could attend to the cleanliness of the mouth, and would be able to decide as to the best time for any needed operation Certainly there should be a close collaboration between the general and the dental surgeon the lack of such coöperation had led to the performance of *operations of* unnecessary *severity* and the sacrifice *of tissues which might have been saved* No attempt should be *made to perform* a plastic operation to *close the gap until an interdental splint* had been *placed in position* The work of the *dental surgeon should commence* as soon as the patient had *recovered from the shock*, it would save much loss of *occlusion, such as was the lot of* too many cases Efficient drainage was the first essential principle of treatment, and thorough irrigation must be carried out from the start Unions of the maxillæ did not present such difficulties as those of the mandible, for the former had the support of other bones, and also a free blood-supply If sepsis could be avoided, union in the upper jaw usually occurred in a few weeks Restoration treatment he considered under the following four heads (1) Reduction of displacement of bony fragments, (2) retention of those fragments in a position which allowed of normal occlusion, (3) reduction of cicatricial contraction, the restoration of muscular equilibrium, and the remoulding of the facial tissues, (4) the fitting of a permanent prosthetic appliance It was erroneous to suppose, as some declared, that the application of an interdental splint at an early stage tended to promote sepsis If properly constructed, the splint could easily be kept clean, and by assisting the irrigation of the parts the period of suppuration was reduced A mechanical restoration appliance used soon after the infliction of the wound prevented cicatricial tissue from pulling the *remaining* portions of the jaw out of their normal place *during* the healing process To favour osseous union *it* was *important* to secure rest of the fragments, though *not* absolute fixation, removal of foreign bodies from the *vicinity of* the lesion, cleanliness of the mouth and the application of massage Though differences of opinion as to *methods* of treatment were inevitable, he believed there would be *general agreement* among dental surgeons on the following points (1) That nearly all the jaw injuries occurring in *the course of* the war required some dental treatment, (2) *that such treatment* should be commenced as early as possible, (3) *that* these patients should be referred to dental surgeons, and (4) *that* there would be great advantage in segregating such patients into special hospitals or departments devoted *to this* work.

Dr Hayes (*of* the American Ambulance) showed photographs of *some* very severe cases, and emphasised the need of coöperation between surgeons and dental surgeons He brought *for* exhibition 30 of the 380 cases which had been treated by the staff No new pathological problems or conditions had *been* met with in the war cases, the difficulties encountered were due to the *variety* and complexities of the conditions met with The *presence or* absence of a single tooth sufficed to quite change the *method* of dealing with a case. There were now 29 war *dental* centres in France, and he felt that *there should be dental* surgeons actually at the front to give first-aid *and decide* what remaining fragments of jaws and *teeth should be saved.* Some very fine work had been *done in improvising* splints and apparatus for *severe cases*

Dr Hotz also spoke of the need of the intervention of the *dental surgeon* in many *face injuries*, which he divided into (1) *immediate* intervention, (2) intervention after several weeks or months, (3) fractures associated with much facial destruction. There were great difficulties needing special knowledge and experience in re establishing normal occlusion in a mouth to which it was difficult to obtain access.

Mr J F Colyer spoke in some detail of his work on 200 dental cases at the Croydon War Hospital, where the surgical work was under the charge of Sir Frederic Eve This was the first effort to place war cases of injury to the jaw under a dental surgeon There were many cases in which the fractures had remained ununited for several months He considered it absolutely necessary to remove the teeth on either side of the fracture, this he made a rule It must not be forgotten that these were military cases and the surgical staff were there to make the men efficient, to this end men were turned out with their masticatory powers as far as possible restored, a graduated diet-table being one of the means employed It was essential that no foreign body should remain between the fragments There were now 130 dental cases under treatment at the Croydon War Hospital

Sir Frederic Eve spoke of his methods in performing grafting and transplanting operations in *severe cases*, and showed photographs of results achieved. He laid especial emphasis on the need, *in cases of severe comminuted fracture* of the mandible, of *preserving any fragments of bone* which might be viable, *if they did necrose, then they* could be *removed* later

Mr W Hern *referred at length to* his experiences and *methods of treatment at* No 3 General Hospital. He spoke of the difficulties in the early *stages on account of* the *degree of sepsis present, also in those cases presenting* necrotic sequestra *of bone which were being* exfoliated for *some time after* the injury *Intervals in the* treatment could be *most* usefully *devoted to massage* and stretching of the cicatricial tissues, and he had been *surprised* at the resulting suppleness in many *cases.* He failed *to see the need* of excising the *teeth on each side* of *every* fracture He exhibited a number *of* models *of* difficult cases

Mr Montagu Hopson agreed that it was *often* desirable to sacrifice *some* degree of *occlusion in order to* secure bony union, *but* the degree of mal *occlusion so achieved must* be taken into consideration *If the mal occlusion was likely to* be marked he preferred fibrous union, *which* was often very dense. With *regard to the* aim to make the patients efficient *soldiers* again, there was a *class* of severe injury which made it certain *that the patient* could never be efficient again, and every *effort* should be made to render their civil existence *as comfortable* as possible He narrated a number of *cases of special interest*

Mr Stanley Mummery spoke particularly of cases in which there were *portions of* the mandible missing or in which some part *of the arch had* been destroyed The class of case which could *be most* beneficially discussed was that in which the missing portion did not exceed ½ to ¾ inch in diameter, and *he referred* with satisfaction to the good results obtained *in them* by the method of Mr J F Colyer He emphasised *the importance* of gradual sustained pressure in the *reposition of fragments* as opposed to the exertion of *greater force for shorter periods*

Mr G Northcroft said he found the most difficult cases to deal with were *those* in which no teeth remained in one fragment, *and endorsed* the view that plastic operations should *not be performed* on the jaw without consultation with the *dental surgeon*

Mr Norman Bennett divided cases according to the interval which elapsed before they came under efficient treatment Cases *from* the Eastern war area reached the dental surgeon in this country mostly after three months of treatment *in* which the surface and skin wounds had been dealt with, but their bony lesions had been practically *disregarded* This greatly enhanced the difficulty of efficient treatment In reference to the chief point around which the discussion had centred, whether bony union, with defective occlusion, should be sought after or fibrous union with more perfect occlusion, he did not incline to the former view, moreover, in so many cases was there serious loss of substance that bony union could not reasonably be hoped for, only in the slighter cases in which the error in occlusion was not likely to be serious He agreed with Mr Stanley Mummery as to the good results obtained by steady continuous pressure. He considered that the fixed cap-splint was only desirable under two opposite conditions one in which there had been a considerable loss of parts and that in which the loss of bone or tissue was but slight He related some interesting cases

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He had seen tincture of iodine painted on over dung and dry earth and an operation then carried out in the firm belief that something effective had been done to secure sterilisation of the skin To sterilise skin was always a difficult matter, to keep skin sterile for half an hour was an almost impossible matter And one of the most ineffective methods of preparing the skin, for operation or when a gunshot wound was to be treated was the painting of it with any form of iodine, of any strength, with any degree of frequency, and under any circumstances whatever It was an entirely ineffective and futile method, and worst still it bred a certain kind of superiority in the mind of the surgeon. If by the application of an ineffective substance like iodine to the skin the surgeon thought he had done something of value in the ritual, it was apt to affect his whole attitude towards the future stages of the operation The skin, therefore, in cases of gunshot wounds, should be first cleaned There was always plenty of petrol about, useful for the purpose of getting the skin socially clean. Surgical cleanliness was brought about by the use of an antiseptic The best was one which ought to be easily accessible——namely, Dakin's solution The third point was the immobilisation of the wounds If a patient had received a fracture, whether of arm or leg, some apparatus for immobilisation was usually applied It was equally important in cases of severe wounds of soft parts The absence of motion in a limb which had suffered a severe injury increased the comfort of the patient and considerably diminished the risk of extension of infection throughout the wound He now came to the question of the treatment of the gunshot wound under the two headings he had indicated The first was the control of infection from the earliest possible moment That might be called the abortive treatment of the infection received in a gunshot wound at the time of its infliction The surgeon had been in the habit of speaking of pure carbolic acid as something all powerful, capable of controlling or annihilating the infection produced by any organism As a matter of fact, pure phenol was an extremely feeble antiseptic compared with some antiseptics now in use In blaming carbolic acid, it was well to remember that the surgeon was now being faced with problems quite different from those of civil practice, in which very grave infections had been for years almost unknown The antiseptics which he thought of value were the hypochlorite solution, named "Dakin's solution," which was made first of all in the University of Leeds, of which Dr Dakin was an old student He was sent over from the Rockefeller Institute, where he was with Alexis Carrel to carry out researches in the French hospitals Sir Berkeley Moynihan met him within a day or two of his coming to Europe, and heard his views regarding the chances of discovery of a more powerful antiseptic It was not long before they began to make under his formula "Solution 30," which was Dakin's solution This possessed a bactericidal value far greater than that of carbolic acid It was of no use to test the power of an antiseptic in ordinary watery solutions It must be tested in the presence of either serum or pus In the presence of serum Dakin's solution had a bactericidal value about 30 times as great as pure carbolic A commencement was made with Dakin's solution very early, and he (Sir Berkeley Moynihan) had make a good many investigations in regard to it from the clinical standpoint, and also some from the bacteriological during the last few months Dakin's solution was very cheap and easily made, and it diffused readily throughout the wound It possessed a remarkable power of clearing away dirty sloughs from a wound. But the solution needed to be applied in the proper manner Surgeons had been brought up with the notion that the ideal surgical dressing consisted of some gauze, a certain amount of wool, and a bandage When that kind of dressing was applied to the ordinary gunshot wound of war, on taking it away a thick layer of pus was seen, even an hour or two after applying it, on the surface of the dressing What had been done in applying that so called antiseptic dressing, was simply to poultice the wound with pus Obviously, that was not the best way of dealing with a wound and Dakin's solution must not be so applied The wound should be packed rather loosely with gauze, which could be frequently made wet by the application of fresh quantities of the solution The various ways of doing that were simple One of them, introduced by Carrel, was to have tubes of small size, in which were many perforations wrapped round with Turkey towelling These were pushed into the farthest recesses of the wound, and into them some of the solution was injected It diffused itself throughout the wound, penetrating to the deepest recesses Another method was to have strings dependent from the wound, to draw up the liquid, and conduct it equally to all parts of the wound The best plan, he thought, where the wound was in a situation which allowed of it, was to have a loose packing of gauze and to send round a nurse every hour armed with a Florence flask charged with the solution, to replenish the supply Beneath the limb was placed a photographic dish for the reception of the excess fluid and the discharges from the wound Dakin's solution must be used fresh not more th five days old, and it must not be heated before use It was a little apt to irritate, and the irritation seemed greater in some parts of the world than in others Dakin suggested that the bleaching powder from which the solution was ma varied in quality Sir Berkeley Moynihan thought that owing to the tremendous chemical force of the hypochlorite some interaction occurred, especially if other antiseptics had previously been used, and irritable products resulted. It was therefore advisable in all cases to protect the skin The grea point was never to apply the ordinary civil dressings which were customary before the war Dr Dakin had now made a newer antiseptic which he called 'chloramine' That was approximately five times as strong as the hypochlorite, in other words, 150 times as strong as pure carbolic acid, tested with serum and pus It was suspended in gauze and packed lightly into the wound thus diffusing the very strong antiseptic uniformly throughout it The results so far showed that chloramine was much stronger than anything which had been used by them before, and its power of cleaning a wound greater Unfortunately, the necessary substances to produce it were not easily obtained. The name of it was now being changed to tolamine The treatment of a gunshot wound, therefore, immediately after its infliction should be directed to the abortion of the infection by the immediate application of the strongest antiseptic obtainable The question arose whether Wright's method of hypertonic saline was of any value in the early stages after the infliction of such a wound A year ago he, with Sir Anthony Bowlby, saw at the front a great number of patients brought into field ambulances and stations, and he could vouch for the perfect accuracy of Sir Anthony Bowlby's description of the men so brought in They were weary beyond endurance fell asleep at once and were roused with difficulty They were pale and cold, and often had a feeble pulse If at this stage Wright's method was applied it was quite certain that the wounds could not be compelled at first to discharge serum Even if serum came, he thought it would be the worst thing for the patient in his weak state The best thing which could be done was to apply as soon as possible the strongest procurable antiseptic, in a form which permitted of free diffusion throughout the wound The task of disinfecting wounds at the outset ought not to be very difficult, since Alexis Carrel had shown that smears taken from wounds within half an hour of infliction might only show organisms after diligent search It was only because the organisms were very virulent or the nutrient medium very suitable that such rampant putrefaction occurred. The next question to be considered concerned the treatment of infections when such had been thoroughly set going in a wound In most of the cases of wounds seen in England where suppuration was already ablaze, the question became one of deciding what was the best method of controlling and eventually removing the infection Wright asserted that by the application of a strong saline solution to the surface of a wound an outflow of large quantities of serum resulted in organisms in the wound being attacked and destroyed by this bactericidal serum No doubt Wright's method, properly applied, produced a copious outflow from the wound So great indeed was the drainage from an extensive wound that patients complained of thirst and consumed large quantities of water If such drainage occurred he (the lecturer) thought it undesirable to apply drainage such as this early after the receipt of the injury, on account of the patient's general condition Wright's solution certainly cleaned a pus producing wound quicker than any other application, the granulations began to glow with health, and a condition resulted such as Solomon had in mind when he said "The blueness of a wound cleanseth away evil" (Prov xx. 30) But there were certain disadvantages in Wright's method If the application were too long continued there was a tendency for the granulations to bleed and become œdematous And Wright's method tested bacteriologically, was ineffective to kill the streptococcus which was the hardiest and tardiest of all the wound organisms In the case of wounds in France, however freely they suppurated, they rarely found the staphylococcus present At the end of three or four days after the application of Wright's method all the organisms had gone with the exception of the streptococcus When the granulations bled it was better to stop the method and apply something else.

Wherever possible the edges of the wound should then be drawn together, by sutures or plaster, when even the most improbable wound would sometimes heal up rapidly. *A variant of Wright's method had been introduced by* Colonel Lawson, R.A.M.C. Instead of putting the gauze on and constantly saturating it from a Florence flask, he used a gauze wick in which tabloids of saline were wrapped. In the lecturer's hands the patients complained of burning and smarting; he had therefore used chloretone tabloids, and with this analgesic the patients were more comfortable. Another method had been introduced by Mr. A. E. Morison, of Newcastle—namely, sulphate of magnesium with glycerine. The claims made for this method were just. The wounds so treated were vivid with health, and the streptococcus was often killed by the fifth day. One matter of great importance in the treatment *of gunshot wounds* was to get the patient into the open air. Recently at Sheffield he had found 16 patients with grave infections who had been out of doors day and night and who preferred to remain outside. In France Major Adye-Curran had compelled him to believe that it was a great advantage to patients suffering from severe infection to be out of doors, and to have their wounds exposed to air and sun. They ate better, slept better, and were more cheerful than when kept in the ward. In deciding whether to take a patient who was very septic into the open air no regard need be paid to his temperature chart. The value of such exposure to the air he learned many years ago at the Johns Hopkins Hospital, and this was one of the many good things which the profession owed to Halstead. With regard to vaccines he spoke with hesitation. The divergence of view on the subject was possibly due to opinions not having been based on similar events. He felt that surgeons had not given vaccines quite a fair trial. Tuffier, of Paris, had expressed the opinion that vaccines were not of the slightest use in surgical cases. Were vaccines of value when used as prophylactic agents? If Wright's hypothesis were true that vaccines did something to fortify the power of the serum against organisms with which it had to contend, then vaccine and hypertonic salt treatment were reasonable methods of dealing with wounds. The lecturer did not know whether the method had been put into practice for prophylaxis. Sir Watson Cheyne had suggested that bacteriologists might now well be employed in trying to raise the defensive power against organisms encountered in this war in the case of all new recruits. The great fact remained that the scientific triumph of this war had been gained by Sir Almroth Wright in connexion with typhoid vaccines. If any hope existed of even remotely approaching that, a very thorough trial should be given to preparation by vaccines of soldiers who were to fight in this war.

The PRESIDENT agreed that the application of iodine to wounds had proved a disappointing fetish. He did not think the serum exuded in Wright's method was bactericidal; its chief value seemed to be in the efficient drainage which it ensured. Vaccines were yet on trial in regard to their power to check the poisoning from which a patient was already suffering.

Colonel D'ARCY POWER thought that the time had come for considering the after-effects of wounds which had received more or less successful treatment since the war began. First was the question of reopening wounds already healed—as where nerve-endings were involved in scars—characteristically in painful stumps, the secondary suture of nerves, unsightly scars, and refashioning of stumps. Often the immediate result of these operations had been to start a further course of suppuration, apparently because the pyogenic micro-organisms had been lying inertly in the healed wound. He was therefore inclined to defer secondary operations as long as possible. He also desired to know the experience of others about the course taken by dense infiltrating scars the result of prolonged suppuration in extensive laceration of the soft tissues. His own opinion was that graduated movements made by the patient and massage made the tissue much more supple and amenable to treatment, making excision of the scar undesirable at least during the earlier periods. He felt sure that the immobilisation in treatment of fractures and suppurating joints was carried to unnecessary lengths and that when pain had ceased and the patient felt security in the limb massage and [illegible] might be done. Septic joints were best treated by [illegible] under a general anaesthetic, but this was undesirable in the case of septic joints; in their case the septic inflammation should be allowed to subside for many weeks. Turning to the medical side, those in general practice would *have to bear in mind that numbers of their male patients* had suffered from jaundice and would consequently be liable to inflammation of the gall-bladder and gall stones.

Mr. W. H. CLAYTON-GREENE said he had always had a liking for antiseptics in surgery. Years ago Edmund Owen habitually cleansed his hands for operations in bleaching-powder, the basis of Dakin's solution. Surgeons, however, should not forget the idiosyncrasies of patients in regard to drugs; some could not tolerate even small quantities of carbolic acid. He was much impressed by Sir Anthony Bowlby's advice in the Bradshaw lecture in regard to variation of treatment. The difficulty in assessing the value of vaccines was the absence of controls, but he thought no vaccine but an autogenous one should be used. An important problem was that of the proper treatment of sinuses with a foreign body deeply hidden away. By interference there was the liability of opening up new tracks of infection. He thought exploration should be deferred until the streptococci had been got rid of. Another point was that the endeavour to save a patient's limb should not be carried to the point at which the life was placed in jeopardy.

Mr. DONALD ARMOUR agreed with the opener's strictures concerning iodine for wounds. Many cases came from the front sadly deficient in adequate drainage, probably through lack of time; he regarded it as a *sine quâ non*. He was much encouraged by the results obtained from the use of magnesium sulphate and glycerine. He agreed as to the danger in reopening wounds, especially in cases of bone injury.

Mr. ALEXANDER FLEMING spoke of his work in France from the bacteriological side. From this standpoint there were three stages of evolution of wounds. In the first the anaerobic microbes were predominant, then the blood-stained discharge contained streptococcus and putrefactive organisms. A transition stage followed in which the anaerobic microbes tended to disappear and finally that in which *pyogenic cocci*, with *bacillus coli* or *proteus* appeared. He spoke highly of the value of vaccines, which had been in use at St. Mary's Hospital since 1903. There was a too prevalent custom to leave everything to the vaccine and expect too much from it without carrying out the various aids which were indicated.

Mr. DUNCAN FITZWILLIAMS spoke of his experiences at Malta with the wounded from the Dardanelles. He cordially agreed with the opener in regard to the need for immobilising wounds. A vaccine could not be expected to do much good in a case in which there were many pockets of pus. He also agreed that amputation might be decided on so late that the patient lost his life. Great benefit arose from exposing wounds to air and sun, except in hot climates, where he had seen wounds which were fly-blown.

Mr. A. EDMUNDS spoke of the great value of the antiseptics brought into use by his friend Dr. Dakin, in the cases he saw from Anzac. But it must be used with care and all the details followed. If it was being used properly the creamy pus soon became altered into viscid pus, and this provided a good indication. The gauze could be kept wet with the solution by any orderly. As to the value of chloramine, he was as enthusiastic as Sir Berkeley Moynihan, particularly in mouth cases. Chloramine was a powder, and could be used for any length of time; it could be used on wounds, on mucous membranes, and the bladder could be washed out with it.

Sir BERKELEY MOYNIHAN replied. He strongly favoured the circular amputation; if even one stitch was put in there was great danger of the supervention of gas gangrene. He agreed with what had been said concerning wounds which were opened up a second time. One patient died from tetanus after passive movement of the shoulder joint after the original wound had been healed. *The reopening of a healed wound* seemed to revive infection which had become latent.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 2nd, Dr. F. J. [illegible] (in the absence of the President (Major A. H. Buck, R.A.M.C., T.) being in the chair.—Dr. M. Handfield-Jones showed a specimen of Chorion Epithelioma of the Uterus following Hydatidiform Mole, and made some remarks on these cases Bleeding came on in this instance some two weeks after delivery of the mole, and panhysterectomy was at once performed The patient, who was a healthy Jewess, was in good health some five months after the operation No sign of any secondary growths was found Dr Handfield-Jones did not consider that hysterectomy should be performed at once in all cases of hydatidiform mole, but if bleeding recurred immediate panhysterectomy was indicated —The specimen was discussed by Dr Ryle, Mr George Morgan, Dr Heywood Smith, Dr H M Galt Dr R Sanderson, and Mr H N Fletcher —Dr Handfield-Jones then read a paper on the Clinical Aspect of the Double Uterus in its Relation to Diagnosis and Treatment The paper was based on the reports of 10 cases of this condition, eight of which had come under Dr Handfield-Jones's personal observation The cases were selected with a view to illustrate certain clinical points Among them were (1) A case in which septic infection of the second unimpregnated uterus occurred after delivery of a child from the other uterus, (2) a case in which twin fœtal sacs were removed from one uterus when the patient safely carried a single pregnancy in the second uterus to term, (3) a case of hæmatometra in a double uterus, (4) a case illustrating some obstruction to delivery by the unimpregnated portion of a double uterus, (5) a case in which the unimpregnated uterus was safely drawn up out of the way of the pregnant portion, and delivery was unobstructed, (6) a case in which death occurred from sepsis and hæmorrhage following an attempt to divide the septum separating the two uteri, both of which were pregnant, after the first uterus had been safely emptied, (7) a case in which pregnancy proceeded to full term in one half of a double uterus after the other uterus had been emptied by curettage in the early months, (8) a case in which a double vagina was discovered by the patient herself, and (9) a case in which pregnancy proceeded safely to term after the condition had been demonstrated by an exploratory laparotomy in the earlier months of pregnancy —In the discussion which followed Dr Ryle remarked on the difficulties of diagnosis, especially in cases in which profuse loss occurred in the early months of pregnancy —Dr Heywood Smith, Mr Morgan, and Mr Fletcher described a case which had been under their care in a child of 16 who at one time presented symptoms of intestinal obstruction Recurrent pyometra had followed The abscess discharged itself into the bladder on several occasions, and later into the abdominal wound —Dr Sanderson thought these cases were more frequent than is usually supposed —Dr E R Hunt spoke of the difficulty of diagnosis in a case which he had seen.—Dr Handfield Jones replied

Reports and Analytical Records

FROM

THE LANCET LABORATORY

PEPTONUM SICCUM, A & H

(ALLEN AND HANBURYS, 37 LOMBARD STREET, LONDON, E C)

Peptonum siccum is prepared for bacteriological use as a nutrient, and according to our examination it is well adapted for the purpose It follows, at all events, well known preparations very satisfactorily We found that it contained 92 00 per cent of soluble matter consisting of albumoses and peptone, the former predominating according to the zinc sulphate test The moisture amounted to 6 00 per cent, and the total mineral matter to 11 00 per cent It is a well prepared peptone which will usefully find wide application in the bacteriological laboratory

TOLAMINE

(BURROUGHS, WELLCOME, AND CO, SNOW HILL BUILDINGS, LONDON E C)

Tolamine is the name, we think, happily given, of the new compound known as para toluene sodium sulpho chlor amide, which has been shown to possess very remarkable germicidal properties This true chemical combination presents a chlorine nitrogen linkage in which the chlorine is a bactericidal potentiality When brought into contact with proteins and cell nuclei containing basic groups it becomes a chlorinating agent, parting with its chlorine to the basic substances, so exerting its antiseptic action as called for A solution of this substance does not precipitate or coagulate blood serum, and yet molecule for molecule the germicidal activity of tolamine is four times that of sodium hypochlorite As is now well known, hypochlorous acid cannot be injected, as it coagulates the blood, while a solution of sodium hypochlorite causes hæmolysis Tolamine is therefore admirably adapted for the antiseptic treatment of wounds The first name given to this substance, chloramine, is not well chosen, and will lead to confusion, and besides is already used for the simple compound NH_2Cl The word Tolamine is better

VIROPHOS

(C J HEWLETT AND SON, LIMITED, 35–42, CHARLOTTE STREET, LONDON, E C)

We have confirmed the statements of the manufacturers in regard to the composition of this preparation It contains milk casein, malt extractives, and glycerophosphates We found that the preparation dissolves in cold water to the extent of 64 40 per cent In this solution malt sugar and glycerophosphates were found The casein is not readily soluble in cold water. The moisture amounted to 9 50 per cent and the mineral matter to 8 50 per cent The preparation contains a pleasant flavouring It is of high nutritive value, enhanced by the presence of assimilable phosphates

FORMITROL PASTILLES

(A. WANDER, LIMITED, 45, COWCROSS STREET, LONDON, E C)

The administration of formaldehyde as a mouth and throat antiseptic in the form of lozenges has the drawback that after a time the formaldehyde strength diminishes owing to volatilisation These pastilles are made with special attention to this disadvantage and the strength of the formaldehyde is maintained Apart from the particular mode of manufacture which secures this, the pastille is closely wrapped in tinfoil to help further to prevent the escape of formaldehyde Our examination showed that these precautions preserve the amount of formaldehyde added

ESPRIT DE LILGE

(THE PEACE PILLOW COMPANY, 17, MANCHESTER AVENUE, ALDERSGATE STREET, LONDON, E C)

This preparation compares very favourably with "Eau de Cologne" as we knew it before the war The perfumes are evidently carefully chosen consisting of natural essential oils free from synthetics On complete evaporation there is no unpleasant smelling residue left The odour is quite refreshing, and the spirit employed is evidently pure, yielding no solid matter on evaporation On ignition there was no mineral matter left Esprit de Liege seems to us to be just as useful and attractive an article as the various preparations once so popular on the dressing table

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SOUTHPORT INFIRMARY —The annual meeting of the governors of this infirmary was held on Feb 26th at the town hall when sympathetic references were made to the death of Sir George A Pilkington late consulting medical officer and chairman of the board of management of the infirmary

A Guarantee!

Cadbury's Cocoa

is absolutely pure and prepared only from the finest selected cocoa

(Cadbury Bournville.)

PNEUMOSAN

(Reg Trade Mark.)

AMYL-THIO-TRIMETHYLAMINE.

"*One is morally bound to take notice of a preparation like Pneumosan*"

——, Sanatorium Superintendent

Associated with correct hygienic conditions Pneumosan treatment has produced a higher percentage of improvement and cessation of symptoms than any other preparation offered to the Medical Profession for the Treatment of Tuberculosis In this connection attention is drawn to the tabulated figures given in an article in *The Lancet* of Dec. 11th, 1915, page 1295, on Pneumosan in the Treatment of Pulmonary Tuberculosis

The responsibility for applying this treatment is solely vested in the Profession The injections are intra-muscular and patients are never supplied direct.

WRITE FOR LITERATURE

THE PNEUMOSAN COMPANY

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Owing to the absence of any adequate Chemical tests for certain very important Drugs, notably **ERGOT CANNABIS INDICA, CONVALLARIA, MAJALIS, DIGITALIS, SOUILL, and STROPHANTHUS,** we are submitting these for physiological examination by one of the first experts in the Country, and can guarantee our preparations of them to be of **FULL THERAPEUTIC ACTIVITY.**

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PARKE, DAVIS & Co.'s PAGE.

LETTERS TO MEDICAL MEN.

PHYLACOGEN IN DISEASES OF THE SKIN.

NOTE.—The medical reports quoted in this letter are published by permission. On request we shall be glad to place any *bona fide* enquirer in communication with the authors.

DEAR SIR,—Medical men are frequently confronted with various forms of skin disease which prove very intractable. We have had many exceedingly satisfactory reports of such cases treated with Mixed Infection Phylacogen, these including cases of acne, eczema, impetigo, sycosis, &c., some of which had previously been under treatment for upwards of four years without result. A few cases were reported in THE LANCET of June 21, 1913, from a London infirmary; and since that time we have had reports from various parts of the country giving encouraging accounts of the treatment. We quote a few of these in the hope that they may be of service.

SYCOSIS. A practitioner in the Midlands reports the case of a patient with aggravated sycosis, for which all known remedies had been tried without avail. Mixed Infection Phylacogen was given, the commencing dose being 1 c.c., which was gradually increased to 4 c.c. In a very short time the skin completely cleared up, the prompt response to treatment being highly gratifying to patient and doctor alike.

Another case of much longer standing is reported by a medical man in the Home Counties. "The patient, a clerk in the City, age 21, came for treatment 2½ years ago for sycosis. The disease began over the right angle of the jaw and rapidly spread over the face, the usual induration, pustules, &c., being present. The patient was at the same time suffering from acne. He was treated with various ointments and lotions without result, then he had a course of vaccines—Mixed Acne Vaccine and Staphylococcus Vaccine both being tried, also with no result. An autogenous vaccine was then prepared and administered with slight success, but the patient relapsed, and this was given up. So serious was the patient's condition, and so unsightly his face, that he had some months' leave of absence, but he was compelled to return to business without the trouble having been relieved in the least degree. Mixed Infection Phylacogen was then resorted to, beginning with doses of 1 c.c., and very gradually increasing to about 3.5 c.c., injected subcutaneously in the arms. The usual local reactions were experienced, the systemic reactions not being very marked except with the early injections. The patient went to business as usual every day, as he could not again obtain leave of absence, and on this account large injections were not given except on Saturday evenings when 5 c.c. were injected. If larger doses could have been given, the result would probably have been secured earlier. In all, 18 bulbs of Phylacogen were used, these being given in 40 injections at the rate of about 4 injections each week, an arrangement which suited the patient well. He began to improve almost immediately after the treatment was commenced, and the improvement went on steadily until the face practically resumed its normal condition. It is now six weeks since the last injection was given, and there has been no recurrence, the induration and redness have entirely gone. I have no hesitation in saying that this patient owes his improvement entirely to Phylacogen." (May 8, 1914.)

ACNE. From the North of England comes a report of a case of acne in which the patient's face and neck were in a deplorable condition, having the appearance of a large festering sore. The usual methods of treatment had entirely failed, and Mixed Infection Phylacogen was resorted to. The first dose, 3 c.c., produced very little constitutional disturbance, merely a headache. Doses of 3 c.c. were given every second day subsequently, without any local or general reaction. After the third injection the condition of the patient showed signs of improvement, and both the face and neck were nearly well by the time the sixth injection was given. The case cleared up very satisfactorily, and has since continued quite well.

IMPETIGO. In addition to the cases of impetigo referred to in THE LANCET (*loc. cit.*), the following may be quoted from a Lancashire report. The patient was a boy, aged 4, and the disease was unaffected by the usual treatment. Mixed Infection Phylacogen treatment was adopted, and only four injections required to be given. The first dose 2 c.c., second 3 c.c., third and fourth 5 c.c. each. The patient had a bad headache and malaise for four or five hours after each injection, there were no rigors, nor did the temperature ever rise above 98.8°. Very great improvement was manifested after the fourth dose, and subsequently the patient was discharged cured.

ECZEMA. Several cases of eczema have been reported, the results being entirely satisfactory. The following is typical. Case of pustulant eczema of head, the result of X ray treatment for ringworm in a boy aged 8, of four years' duration. All methods had been tried without avail, and Phylacogen treatment was adopted. Eleven doses, ranging from ½ c.c. to 6 c.c., of Mixed Infection Phylacogen were injected during a period of five weeks, the temperature after injection varying from 99.4° to 103.4°. After the second injection the pustules began to dry and the case steadily improved. Three weeks after the last injection the boy was discharged cured, treatment of the scalp with boiled oil having cleared off the remaining crust.

Other reports showing the value of Mixed Infection Phylacogen in skin infections and septic conditions generally will be found in our booklet, 'Phylacogen Therapy,' a copy of which we shall be glad to send to any medical man on request.

Yours faithfully,

PARKE, DAVIS & Co.

50, Beak Street, Regent Street,
London, W.

THE LANCET.

LONDON: SATURDAY, MARCH 11, 1916.

Final Report of the Royal Commission on Venereal Diseases.

THE Final Report of the Royal Commission appointed in November, 1913, "to inquire into the prevalence of venereal diseases in the United Kingdom, their effects upon the health of the community, and the means by which those effects can be alleviated or prevented," was issued last week, with a full knowledge on the part of the Commissioners of the disadvantages of promulgating the report at a time when all public activities are centred upon meeting the manifold needs of the gigantic war in which the nation is engaged. The Commissioners, who were unanimous in signing the main report, were, however, of opinion that early issue of their views would be advantageous, as the conditions to the investigation of which the appointment of the Commission was due while existing now, must continue on the conclusion of the war. Their course is one with which all must agree, for those conditions will require remedial action at the earliest opportunity if they are to be dealt with in any practical and comprehensive manner; indeed, we should have welcomed some advice from the Commissioners as to making use *now* of the instructional opportunities offered by the aggregation in camps of the larger part of our vigorous young manhood. Such an opportunity for giving impressive counsel to crowds who need it will not readily recur. This is not said in any spirit of criticism. For the Report[1] is a document of the first interest to the nation, and it should be read as a whole so as properly to understand the comparative value of the general conclusions and of the evidence upon which they are based. We publish in another column the summary of recommendations and the general conclusions in full, many of which, in our opinion, must have been largely foreseen by the medical profession. That no system of regulation would be favourably mentioned was certain, and that no mode of notification of venereal disease would be recommended was thought probable, as medical opinion is still divided on this point. We think that notification will probably follow on the better instruction of the public in the sequelæ of venereal diseases. The difficulty of determining the real prevalence of these diseases in the country, which it was felt would be experienced by the Commissioners, made it appear likely that some form of confidential registration of causes of death would be suggested, as well as arrangements for the compilation of accurate statistics. Perhaps this authoritative report may lead to the reform in our national ways of taking stock by figures, a reform which only last week we suggested was very necessary. In this connexion the third recommendation of the Commissioners is exactly to the point.

The first section of the Report summarises briefly the previous action taken by the State in this country to control venereal diseases. The story of the Contagious Diseases Acts is set out, and the fact of their repeal 30 years ago is briefly noted, the Commissioners being precluded by the terms of reference from considering the policy of regulation. They seem to have interpreted this limitation as enjoining them not to mention the subject of prostitution, and this gap in their advice to the State will have later to be filled. They place on record, however, their view, based on evidence given by experts at home and abroad, that no advantage would accrue from a return to the system instituted under the Contagious Diseases Acts, while they note in support of this the great improvement as regards venereal disease in the navy and army which has taken place since the repeal of those Acts. Except in the case of the navy and army there are at present no means of arriving at an accurate estimate of the present prevalence and distribution of venereal diseases. The Commissioners come to the general conclusion, as regards prevalence, that the incidence of both syphilis and gonorrhœa is much lower in rural than in urban areas, and as regards the great cities this may be taken as absolutely proven without actual acquiescence in the tentative view that at least 10 per cent. of the population of such cities are affected. We find the assumption of so great a prevalence hardly justified in face of the widespread belief of the medical profession that the incidence of these diseases in all classes of the population has become definitely lighter. The statistical part of the report is the one which will give the least satisfaction, and many will feel that, apart from certain special inquiries, not much is here set down that is of paramount value. We make exception in favour of the investigations of Dr. PAUL FILDES into the prevalence of syphilis among the apparently healthy adult inhabitants of the East End of London, of Sir JOHN COLLIE into the manifestations of syphilis among 2274 persons referred for medical report by large employers of labour, of the Lister Institute into the occurrence of syphilis among persons admitted to certain asylums, and of Dr. F. W. MOTT and Mr. N. BISHOP HARMAN, to which we refer below.

It is only in comparatively recent years that the full effects of venereal diseases have been recognised, and in the third section of the Report these effects are discussed from the clinical standpoint The little essay on syphilis thus furnished, describing its early and late results, the danger of spirochætal infection of the walls of the arteries, and the possible production of deadly affections of the brain and spinal cord, makes terrible reading, and reminds us over and over again how much wider our knowledge of the subject has become in recent years And it is this fact which renders an estimation of the actual prevalence of syphilis particularly difficult, for while it is the widespread impression of medical men that the disease is not so rife as it was even 20 years ago, they must recognise as syphilitic phenomena conditions to which wholly different origins were formerly given. Upon gonorrhœa the pronouncement of the Commissioners is no less impressive than it is upon syphilis, and in insisting upon the widespread mischief which may follow in its train for both sexes, the particularly sad result of sterility in the female is noted in the following comment —

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[1] Royal Commission on Venereal Diseases: Final Report of the Commissioners. (Appendix, Minutes of Evidence, &c., to Final Report of the Commissioners, one vol., is printed separately as Cd. 8190.) Cd. [illegible] 1916. Price 1s. 11d. To be purchased either directly or through any bookseller from Wyman and Sons, Limited, 29, Breams Buildings, Fetter Lane, E.C., and 28, Abingdon Street, S.W., and 54, St. Mary Street, Cardiff; or H.M. Stationery Office (Scottish Branch), 23, Forth Street, Edinburgh; or E. Ponsonby, Limited, 116, Grafton Street, Dublin; or from the Agencies in the British Colonies and Dependencies, the United States of America and other foreign countries of T. Fisher Unwin, Limited, London.

> Gonorrhœa is said to be the commonest cause both of absolute and relative sterility in women, probably 50 per cent of all causes It prevents conception in the early stages by hindering the living germs on which impregnation depends from reaching the uterus, and also by destroying their vitality Impregnation would therefore appear to be impossible during an acute attack of gonorrhœa, and although pregnancy may possibly occur during the subacute stage it not infrequently ends in miscarriage owing to the inflammation from the vagina creeping into the lower zone of the uterus Should the child be carried to term, the risk of infection of the tubes and ovaries is greatly increased This leads to such alteration in the structure of these essential organs as to cause the well known "one child fertility" When complicated by streptococcic and staphylococcic infection gonorrhœa may lead to puerperal sepsis and death

We agree with the Commissioners that knowledge of these facts should cause both the medical profession and the public to take a far more serious view of gonorrhœa than has hitherto been adopted For this and other reasons we wish for the Report a wide circulation among the public It will help greatly to obtain universal coöperation in any remedial measures which may be designed to meet the conditions produced by venereal diseases that the public should be made aware of the influence of syphilis in producing hereditary and congenital disability of a terrible sort This is illustrated by diagrams contributed by Dr MOTT on untreated or inadequately treated syphilis, which prove the disastrous results of the infection of a parent On an adjoining page in the report will be found a diagram furnished by Mr BISHOP HARMAN showing the proportions of blindness in children due to venereal disease, and the lesson is enforced by a statement of the same observer that of 1100 children in London blind schools 31 2 per cent of cases were certainly, and in addition 2 8 per cent were probably, due to syphilis

Under the head of the treatment of syphilis, mercurial and arsenical courses are discussed, and the summaries of the reports regarding the drugs used in this country as substitutes for the German products of salvarsan and neosalvarsan show these new substances to be very satisfactory A part of the evidence to this effect has been already published in our columns, and goes to indicate that kharsivan and galyl are of the greatest possible value Wisely the Commissioners say, having regard to the fact that in all cases successful treatment must largely depend upon the assistance of the patient, that instructions should be given in the clearest possible manner as to the contagious nature of syphilis, as to the duration of the infection, and as to the necessity for treatment being by a doctor, not by a quack, and being persevered with at medical discretion For the first time we think the position of the married woman is definitely recognised, as in the report it is suggested that no one who has, or has had, syphilis should marry without medical permission. A similar instruction is recommended in cases of gonorrhœa, and the special danger of communicating the disease to the wife is dwelt upon, while the Commissioners recommend that venereal disease should be a ground for nullity of marriage We agree wholly with this opinion on a sad situation, and also with the statement in the ninth recommendation that institutional treatment for venereal disease should as far as possible be provided at general hospitals Indeed, we look forward to the day when the general hospitals, in the presence of an enlightened public, will wage systematic war on venereal disease through the medium of highly instructed staffs, both senior and junior When we all know more, the terrors of venereal disease—real, as they are, beyond description—will be met squarely and dissipated promptly We read this optimistic forecast into a document of studied moderation

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The History of the Human Body.

EVERYONE is familiar with the remarkable manner in which the mammalian body has been modified in those animal forms which live in water A study of the structural adaptations in the bodies of whales and their allies fascinated HUNTER, KNOX, GOODSIR, TURNER, STRUTHERS, and FLOWER The fact that a life in trees—an arboreal existence—has an equally profound effect on the structure of the body has escaped the attention of anatomists, at least, has never been properly studied or appreciated, notwithstanding the fact that all serious students are agreed that man is the descendant of an arboreal stock In a series of masterly lectures in the theatre of the Royal College of Surgeons of England, which we are glad to know were attended by audiences commensurate with their merit and importance, Professor F WOOD JONES analysed the various features of the body which must be attributed to an arboreal lineage Why is it, he asked that the arm and hand of man and of man's congeners retain so many primitive structural features—features which we seek for vainly in the higher orders of mammals but find paralleled in the very lowest mammals and in reptiles and in amphibia? The answer is to be found by studying the various functional phases in the evolution of limbs In the lowest land living forms of vertebrate animals limbs are purely propelling organs, they are incapable of sustained support of the body When the limbs become capable of sustained support, as in mammals with hoofs and claws, they become profoundly altered in structure and lose all their primitive features In climbers, however, the primitive features are retained, for in them the limbs still serve as propelling rather than as supporting organs Professor Wood Jones maintained that the climbing stock—the Primates—must have been evolved at the very dawn of the mammalian type of animal, otherwise these primitive features of the limbs could not have been retained.

Even more remarkable than the results were the fresh methods which the lecturer brought to bear on the evolutionary problems of man's body A study of structure is likely to prove fruitless unless the anatomist has seen the part alive and at work, an anatomist must be an even keener observer of the living than of the dead if he would make true progress He must be a psychologist and correlate structure of brain with the instincts and habits of the living individual All those facts Professor Wood Jones realised, and it is the happy combination of a naturalist in the jungle and in the Zoological Gardens, of an anatomist in the dissecting room, and of a close observer of *human and animal ways* which has made him so successful as an exponent of our knowledge of the past of man. He laid stress on the adaptation of the hand and foot for grasping purposes in climbing animals He showed that it was because the hand could grasp that it was able to replace functions which are performed by the jaws and teeth of other mammals, the retrogression of the jaws, the crowding of the teeth, the coming forwards of the eyes, and binocular vision are direct results of an exchange of function from jaws to hand. The climbing and grasping habit has led directly to the carrying and nursing of the young The climbing habit brought an alteration of the uterus and the production of only a single baby at birth, for an actively climbing mother cannot protect and carry more In terrestrial mammals smell is the dominant sense, the brain is built up round the olfactory centres, in tree climbers scent glands disappear, the sense of smell loses its predominant position, the eye, the ear, and touch become the master senses, the parts of the brain connected with these sense organs undergo a corresponding development, we can see the human brain being built up stage by stage as the various primate forms are traced towards the human end of the phylum Psychology and the anatomy of the brain go hand in hand. In 1833 Sir Charles Bell gave a series of lectures in the theatre of the Royal College of Surgeons of England—the year in which he issued his famous Bridgwater treatise, "The Hand its Mechanism and Vital Endowments as Evidence of Design." How are we to reconcile his ecstatic and yet truthful conception of the human hand with Professor Wood Jones's statement that it is a primitive structure? It is strange that the man who did more than anyone to open up the path which led to a rational study of the human brain did not realise—a fact which was emphasised in these lectures—that the marvellous mechanism which controls and regulates the human hand lies not in the hand itself *but in the brain which guides it* It is not the hand but the brain that makes the man. Who has not seen big clumsy looking hands used as *marvellous instruments of precision*?

One statement by the lecturer is worthy of particular record He said that he had no apology to offer for making the "arboreal habit" the subject of his lectures, as he considered it the duty of every man, whose services were not directly demanded by the State, to pursue his work and his research with more than customary assiduity, it was the only way to repay those who were sacrificing their lives on our behalf He reminded his hearers that Harvey was busy with his scientific problems as he sheltered with the princes behind a hedge at Edgehill, that the Royal Society was founded in the turmoil of a civil war, and that Cook was opening up a new empire in entire ignorance that our American cousins were breaking away from us

Annotations.

"Ne quid nimis."

THE POSITION OF POTABLE SPIRITS

The action of the Government in appropriating the output of alcohol at the patent still distilleries will recall the old controversy as to whether such spirit was entitled to be called whisky The Royal Commission on Whisky reported upon the subject in 1909, and the Commissioners refused to believe that there was any importance attached to the question whether whisky is pot- or *patent still*, they held that the value of whisky in the treatment of disease depends essentially on the ethylic alcohol. They were therefore unable to recommend that the use of the word "whisky" should be restricted to spirit manufactured by the pot-still process We can well understand that for munition purposes pure and strong *spirit* is *required*, and that is exactly what the pot still *spirit* is not In other words, the patent still is a *powerful rectifying* machine, while pot-still spirit carries with *it* certain by products of fermentation and distillation which impart to the spirit a characteristic and pronounced flavour It remains to be seen whether this *action* of the Government will mean that the supply *of* whisky to the public in the future will consist *exclusively* of pot-still spirit, since apparently this is not available for munition purposes. Those whisky consumers who are in favour of blends, will possibly have to confine their patronage to the pot-still spirit unless they abandon this stimulant altogether The price of the commodity will be sure to advance as the stocks of all malt whisky will be relatively small The situation is of interest in regard to dietetic considerations, because of the contention, on the one hand, that blended spirit, a mixture of pot and patent still, is less toxic than all malt pot still, while, on the other hand, pot still whisky alone is not suitable for drinking until it is well matured New or raw pot-still whisky has, indeed, a repulsive flavour, and until it is matured evidently contains substances which, apart from alcohol, are toxic If the Government decide to commandeer the whole of the patent stills in the country, then the supply of gin will largely disappear, since in many instances the spirit used for making gin is patent still Rum, on the other hand, falls into the category of pot-still spirit, and there are plentiful supplies from our colonies, but it is difficult to imagine rum ever replacing whisky, brandy, or gin in the manner in which these spirits are usually employed But the price of rum will advance with the demand for alcohol, and the same will happen to Cognac brandy, which, again, is a pot still spirit While the supply of potable spirits will be limited to the pot still kinds, there is a possibility of the prices reaching figures which will be prohibitive at least to a very large section of the community The general effect of this position on the public health should afford an interesting study

A THEORY OF ANÆSTHESIA

WHAT is the essential cause of the phenomenon of anæsthesia? That for some reason or other the higher centres of the brain are out of action whilst the vital centres situated in the medulla oblongata continue to work we know to be the condition permitting life while obliterating consciousness, but what that reason is we are still seeking to find out For long it was held that the reason was to be found in the altered metabolism of deficient oxygenation, that anæsthesia was, in fact an expression of physiological asphyxia This we know to be a faulty explanation, for it has been clearly shown that anæsthesia can coexist with efficient oxygenation of the nerve tissues Now the theory has been put forward that anæsthesia is the product of acidity of the blood The thesis is expounded and developed in the most interesting manner by Dr G W Crile in an article in the *Southern Surgical and Gynecological Transactions* (vol XXVII.) The writer shows that the H ion concentration of the blood—its acidity—is increased by inhalation anæsthetics, and that ether and nitrous oxide produce an acidity of the blood which is apparently proportional to the depth of anæsthesia Moreover, he shows that under ether the increase of acidity is more gradual than under nitrous oxide, corresponding with the fact that nitrous oxide produces anæsthesia more quickly than does ether Further, Dr Crile claims that animals "killed" by anæsthetics are revived by the use of adrenalin which is alkaline His hypothesis which supposes acidity to be the cause of anæsthesia and unconsciousness harmonises many facts It explains how asphyxia, overwhelming emotion, and excessive muscular exertion, which all produce acidity, may produce unconsciousness It may explain quick death from chloroform and may show why unconsciousness so commonly immediately precedes death Death itself may be the extreme expression of acidity according to Dr Crile The opposed attitudes of the higher and lower cerebral centres during anæsthesia are explained in the following way according to the hypothesis During the inhalation of an anæsthetic there is an increase in the rapidity and force of the respiration The respiratory centre has been evidently evolved to act with increased vigour in proportion to the increase in acidity, whereas the centres governing the voluntary muscles are inhibited Consequently the acidity cannot be increased by muscular exertion, whilst at the same time it is being counteracted by increased respiratory action whereby carbon dioxide is eliminated and oxygen supplied Without this life saving regulation animals under stress would inevitably commit suicide, says Dr Crile, and the phenomenon of anæsthesia—the coincident existence of unconsciousness and life—is due to this antithetic action of the cortex and the medulla Against this postulate that acidity causes anæsthesia stands the fact that infusion of alkali does not overcome anæsthesia Nevertheless this new idea of anæsthesia is strongly founded, if the experimental facts on which Dr Crile bases it are borne out by further observations Moreover, every study is welcome which tends to throw light on those obscure, but distressing and not very uncommon, cases in which uncontrollable vomiting, accompanied by acidosis and delirium, and ending in death with disintegration of liver cells, follows the use of inhalation anæsthesia

A NEW METHOD OF TREATMENT IN ASPHYXIA NEONATORUM

RESTORATION to life of an infant born in a condition of apparent death, which would in all probability become real without the prompt, skilful, and patient aid of the medical attendant or midwife, is of peculiar importance at the present time when war is exterminating so many lives We think, therefore, that the new method of resuscitation lately described by Dr Serafino Marmo in a recent issue of the *Rassegna d'Ostetrica e Ginecologia* (Naples, Piazza Trinità Maggiore, 13) is of special interest The operator is seated and holds the infant suspended in such a manner that the hollows of the axilla fit into the space left between the thumb and first finger The thumbs encircling the shoulders from behind are extended forwards and upwards so that their radial margins and corresponding metacarpus support the head slightly, which otherwise would tend to dangle The hollow of the hand and the four fingers turned forwards are placed lightly on the lateral and anterior regions of the fœtal thorax, which is in this way completely supported This constitutes the *inspiratory position* The operator now spreads out his own arms so as to draw apart the shoulders of the fœtus, which he raises quickly a few feet and then imparts to it a sharp downward vertical movement as if to throw it to the ground and suddenly arresting its descent The air enters the *rima glottidis* with a characteristic hiss These two movements occupy no more than two or three seconds and constitute the *mechanical and passive inspiration* Then with the hollow of the hands and with the four fingers which surround the thorax, and which may be spread out if necessary, the operator exerts a cautious concentric pressure without disturbing the position of the fœtus He will experience under his hands a sensation of crepitus, which indicates the exit of air, and this movement constitutes the *mechanical and passive expiration*. These movements are practised 25 to 30 times a minute, and should be continued for a longer or shorter time according to circumstances. At intervals it may be necessary to put the fœtus in a warm bath, although the movements may be very well carried out with the fœtus wrapped from the axilla downwards in warm flannel which can be changed from time to time. By this method expansion of the thoracic wall in all its diameters takes place owing to the movements performed and also by the weight of the fœtus acting on the sternum, clavicle, and ribs, and by the depression of the diaphragm caused by the shock imparted to the abdominal viscera. Other useful effects are also obtained, such as traction on the larynx and trachea, with probable elevation of the epiglottis, widening of the rima glottidis, and depression of the lower jaw. In fact, these movements unite in themselves the manœuvres of Silvester and Pacini devised to expand the thorax by elevating and widening the shoulders. Here, however, the fœtus is in a lying posture, whereas by the author's method it is suspended, and this is an advantage. Moreover, it seems that these movements are more effectual than Schultze's method, which induces inspiration solely by the position in which the fœtus is held, since the direct and energetic impulse given to it and the firmer hold on the shoulders cannot but have a more marked result. The second movement advocated by Dr. Marmo imitates Silvester's method so useful in adults, but the effect is obtained with greater simplicity and efficacy without the operator having to change the position either of his own hands or of the fœtus. The method has a further advantage over that of Schultze not only because it can be carried out without increasing the chilling of the fœtus, but principally because the head, well supported by the thumb and metacarpus, is not subjected to the harmful tossing and nodding inseparable from the German method, since increase in the intracranial pressure may cause arrest of the bulbar cardiac and respiratory centres. Lastly, Dr. Marmo claims that a real and not illusory entrance of air into the lungs takes place, as he has been able to demonstrate on the bodies of fœtuses born some days previously so that this abundant and continuous aeration of the alveolar mucous membrane cannot fail in modifying the venosity of the blood and in stimulating the residuum of vitality of the nerve endings and of the bulbar inspiratory centres, and in establishing the rhythm of the reflexes on which extra uterine life depends.

AN ANCIENT GREEK INSCRIPTION

IN the *Monumenti Antichi* (1915) published by the Italian Academy of the Lincei, is a particularly well preserved and lengthy Greek inscription concerning an ancient physician of Asia Minor. The text contains quite 50 lines all but the very last of these complete, and is edited by Signori Paribeni and Romanelli, among a long series of inscriptions discovered during a journey in Anatolia. The record consists of a copy of two honorary decrees bestowed upon a certain Asclepiades son of Myron originally hailing from the city of Perga. The first decree is a panegyric of him by the Perga citizens, and is doubtless a copy of the decree graven and erected in that town. The second decree, which is longer in its engrossment and more eulogistic in its terms, was promulgated by a city named Seleucia, but as there were more than one of this name in antiquity it is not certain which Seleucia is referred to. The decrees really register the results of the deliberations of the two municipal councils when deciding to award honours to Asclepiades. Perga appears to have satisfied its representatives that they were sufficiently recompensing their municipal medical man for his meritorious services by setting up in imperishable stone the decree in his honour. Seleucia conferred citizenship upon him and presented him with a golden crown[1] in the Gymnasium. This Asclepiades, son of Myron, is not known to us from any ancient record. It was a name commonly assumed by physicians, probably as indicative of talent in the healing art, and thus savours somewhat of the charlatan. The registering of two honorary decrees on one memorial stele seems to indicate that it was engraved by private initiative, because the city of Seleucia would not have recapitulated the Perga panegyric. It may be that Asclepiades, son of Myron went to some third city, and there, as proof of his skill, erected the stele now found, setting forth previous rewards granted to him for his medical merits at two other towns. The inscription will be one of the most interesting for the history of lapidary memorials of ancient medicine. An excellent photogravure of the stone is provided to assist students studying the text. It is quite equal in importance to the inscription of the *Agoni Medici* of Ephesus, published by Professor Keil in the *Jahreshefte* of 1905, p. 128.

APPENDICITIS AS A SEQUEL OF TONSILLITIS

THE occurrence of appendicitis as a sequel of tonsillitis has not received much attention and is unmentioned in most text books. The importance of the tonsil as the port of entry of many infections and a source of disease in distant organs has been established in recent years. General septicæmia, acute rheumatism, chorea, endocarditis, pneumonia, pleurisy, meningitis, nephritis, orchitis, thyroiditis, and cholecystitis have been traced to tonsillar infection. The similarity of lymphatic structure in the tonsil and the appendix suggests liability to similar infections. Professor H. D. Anderson, of Toronto, has published in the *American Journal of Medical Sciences* an important paper on appendicitis as a sequel of tonsillitis. His attention to the subject was first directed by the case of a student, aged 19 years, who became ill with follicular tonsillitis on Jan. 10th, 1907. A culture from the throat showed the staphylococcus pyogenes aureus. On the 13th the throat had greatly improved, but the patient suffered from epigastric pain, gastric distension, and belching of gas. There was some tenderness in the epigastric and left hypochondriac regions. The bowels had been acting freely. The pain disappeared in a short time and for two days the patient appeared to be much better, the throat cleared up, and the temperature became normal. On the 15th the pain and gastric distension with retching recurred and he was admitted to hospital. The epigastric region was distended, but there was no pain tenderness, or rigidity elsewhere. During the night general abdominal pain, tenderness, and distension developed, and the temperature rose to 99·2° F., and the pulse to 140. An operation was performed.

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[1] Another instance of a gold crown being presented to a medical man is that of Artemidorus in Ins. Græc. XII., No. 71.

and general peritonitis and a gangrenous appendix were found He died next day Other observers have reported cases in which the tonsillitis preceded the appendicitis by only a few hours, and it has been noted that rheumatism may develop coincidently with or follow appendicitis In the preceding case the remarkable feature was the latency of the symptoms referable to the appendix Fever and rise of pulse rate were absent until the sudden development of the fulminating symptoms The epigastric pain and tenderness seemed to be due to gastric distension It is possible that they were due to generalisation of the infection from the tonsil with secondary involvement of the appendix In the *Journal of Infectious Diseases* for March, 1915, E C Rosenow has published an article on the Bacteriology of Appendicitis and its Production by Intravenous Injections of Streptococci and Colon Bacilli He has shown that multiple hæmatogenous infection of the appendix, duodenum, small intestine, and stomach may result In 1893 Dr T N Kelynack, in his book on "The Pathology of the Vermiform Appendix," directed attention to the relation of tonsillitis to appendicitis Subsequently the subject was taken up by German investigators In 1901 Adrian produced appendicitis in rabbits by intravenous injection of bacteria. He regarded the appendix as a point of election for the localisation of infections In THE LANCET Dr F J Poynton and Dr A Paine have published important contributions to the subject They showed that in rabbits the micrococcus, which they regard as the exciting cause of acute rheumatism, can produce a local lesion in the appendix by direct blood infection[1] They subsequently reported a case which "seems to prove almost conclusively that appendicitis may be a streptococcal invasion through the blood stream from a follicular tonsillitis"[2]

DISEASE AMONG WORKERS IN HEMP CULTIVATION

Dr G Slaviero draws attention in a recent issue of *Il Morgagni* (Part I, Nov 30th, 1915) to the evil effects attributable to the process of maceration to which the dried hemp plants have to be subjected in order to prepare this commodity for manufacture For this operation a kind of rectangular basin is used about 1¼ metres in depth, the dried bundles being placed in the water and fixed there by various appliances During the maceration the surface of the water is covered with putrefying detritus, becomes turbid and assumes a dirty green colour, has a bitter salt taste, and exhales an acrid, pungent, and nauseating odour which poisons the air The macerated bundles have to be removed by workers immersed, sometimes up to the waist, in a crouching position, and wet through in all parts of the body except their backs The bundles are then exposed to dry in the sun, when they are ready for spinning This process, in use in Italy at the present day, is eminently anti hygienic, not only on account of the nauseating surroundings but in a greater degree from the conditions under which the work is performed, with the limbs bathed in the mud and with water up to the waist, resulting in such interference with movement and a useless expenditure of energy rendered necessary by the constrained position Hence it is very common to find among the workers a large number of cases of lumbago, arthritis of the right shoulder and radiocarpal joints, and rheumatic neuritis, while pharyngitis and tonsillitis are very common Among women, too, the conditions seem to induce disturbance of the sexual functions and to favour prolapse of the uterus After the bundles have received their final drying they are carried away, and the dust and fine particles which fall on the uncovered parts of the body, particularly the neck, chest, and arms, produce a kind of pruritus which easily becomes converted by scratching into an infective dermatitis in which staphylococcal elements abound Lesions are also caused by the irritating putrefactive material brought into contact with the skin through the water during the process of maceration If it were possible to carry out the removal of the bundles after maceration by mechanical appliance, the problem of disease connected with the manufacture of hemp would be in a large measure solved However, Dr Slaviero found that the majority of agriculturists interrogated by him were very sceptical about mechanical removal of the hemp from the macerating basins, and were of opinion that human labour was, and always would be, indispensable for the reason that it was impossible for the uniform work of a machine to take the place of a kind of labour, entirely *sui generis*, in respect to the degree of maceration, the conditions of the macerating basin, and of each particular bundle of hemp

PYLORIC STENOSIS AND GASTRIC MOTILITY

THE pathogeny of congenital hypertrophic stenosis in infants is still uncertain, but some recent experiments performed in Dr Carlson's laboratories[1] offer a clue Briefly, it is suggested that the excessive contraction of the pylorus may be an expression of a general hypermotility of the entire stomach In some experiments the pylorus was artificially partially stenosed Dogs were used for the purpose, the gastric movements being recorded by a manometer connected with a swallowed rubber balloon In both animals used there was some delay in emptying There was, however, very definite hypermotility and hypertonicity, and, curiously enough, this was noted not only in the digesting stomach but also in the starved stomach, suggesting that the resulting motor changes are more fundamental and permanent There is, too, in these instances no parallel between increased motility and hunger, such as occurs in the normal person who when hungry shows more vigorous gastric movements Therefore it is likely that not only the motor but also the sensory nervous mechanism are altered by the presence of the stenosis Partial pyloric stenosis induces neuromuscular hyperactivity, independent of the presence of food in the stomach Similar methods of observation were carried out also on two babies, one with congenital hypertrophic stenosis, the other with pyloric spasm In the former there was well marked increase in the strength and duration of the gastric contractions, in the latter there was noted similar hypermotility, assuming at times the degree of vigorous and prolonged tetanic contractions such as have not hitherto been observed, except in the case of adults after prolonged starvation In infancy there is a greater tendency to pyloric hyperactivity, and the pathological conditions clinically familiar may be due to excess of this condition

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[1] THE LANCET Oct 23th 1911 p 1180

[2] [illegible] August 17th 1912, p 439

[1] American Journal of Physiology 1916 vol xxxix pp 303 319

THE ANTISEPTIC ACTION OF SUBSTANCES OF THE CHLORAMINE GROUP

A PAPER on the Antiseptic Action of Substances of the Chloramine Group was communicated at a meeting of the Royal Society on March 2nd by J B Cohen, F R S, H D Dakin, M Daufresne, and J Kenyon They found that the probability that the formation from proteins of substances containing halogen was an intermediate agent in the germicidal action of hypochlorites made it desirable to investigate systematically a number of substances containing the (NCl) group Among the substances investigated the most promising were the group of sulphochloramides first prepared by Chattaway The main results of this investigation were as follows 1 Almost all the substances examined containing the (NCl) group possessed very strong germicidal action 2 The presence in the molecule of more than one (NCl) group did not confer any marked increase in germicidal power 3 The germicidal action of many of these chloramine compounds was, molecule for molecule, greater than that of sodium hypochlorite 4 Substitution in the nucleus of aromatic chloramines by Cl, Br, I CH_3, C_2H_5 or NO_2, groups did not lead to any very great increase in germicidal activity More commonly there was a moderate diminution 5 The chloramine derivatives of naphthalene and other dicyclic compounds of sulphochloramide type closely resembled simpler aromatic chloramines in germicidal action 6 The few analogous bromine compounds examined showed a slightly lower germicidal action than the corresponding chloramines, but sodium sulphobromamides are much more active than sodium hypobromite 7 Derivatives of proteins prepared by the action of sodium hypochlorite and containing (NCl) groups were strongly germicidal Blood serum inhibited their germicidal action to much the same extent as it did with sodium hypochlorite or the aromatic chloramines Among the products mentioned para toluene sodium sulphochloramide was selected as being on the whole most suitable for practical use The authors state that it is easily and cheaply made, it is relatively non irritating to wounds, it is non toxic and very soluble in water, and may be kept unchanged both in the solid state and in solution for a long period

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WE regret to announce the death of Dr Theodore Thomson, C M G, late assistant medical officer to the Local Government Board, which occurred at Oxford on March 6th in his fifty eighth year

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WE also regret to announce the sudden death of Dr Drummond Maxwell, assistant obstetric physician to the London Hospital, which occurred on Tuesday last to the great grief of his colleagues and numerous friends

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ROYAL COLLEGE OF PHYSICIANS OF LONDON —A Comitia was held on March 7th, Dr Frederick Taylor, the President being in the chair A letter was received from the Council of the Royal Society with reference to the establishment of a Conjoint Board of Scientific Societies for the purpose of promoting the coöperation of those interested in pure or applied science, and asking the College to nominate two representatives to meet the council of the Royal Society at a conference to be called at an early date It was resolved that the President should be asked to nominate two Fellows to act as Representatives of the College The greater part of the time was occupied with the discussion of a subject which was declared to be *secreta Collegii*.

THE ROYAL COMMISSION ON VENEREAL DISEASES

THE Final Report of the Commissioners appointed to inquire into the prevalence of venereal diseases in the United Kingdom, the effects of such diseases upon the common health, and the means by which those effects can be alleviated or prevented, was issued last week, and receives general comment in a leading article in our columns The document is a closely written one and cannot be abstracted without much detraction from its value Members of the medical profession are strongly advised to obtain the report for consideration at their leisure In the meantime we publish in full below a summary of the recommendations and the general conclusions

Summary of Recommendations

1 Arrangements should be made for the confidential registration of the causes of death The proposals of the Registrar General are commended for consideration

2 The Notification of Births Act, 1907, should be made universally operative,[1] and in the notification of stillbirths a shorter period of pregnancy than 28 weeks should be taken into account

3 The Local Government Board should devise a uniform system of records of sickness in hospitals and Poor law establishments with the object of securing accurate statistical information as regards the prevalence of disease among persons who receive institutional treatment

4 Statistics should be kept of the number of patients for whom salvarsan or its substitutes is provided at the public expense

5 All institutions which undertake, with the assistance of grants from the Exchequer, the diagnosis or treatment of venereal diseases should keep and render available accurate aggregate statistics regarding these diseases

6 Extended facilities should be made available for the diagnosis of venereal diseases by laboratory methods The organisation of this service should be entrusted to the larger local authorities (county councils and county borough councils), and should form a part of the provision of laboratory facilities having for their object the prevention, diagnosis, and treatment of diseases in general

In any schemes framed by local authorities the fullest use should be made of the laboratory facilities at universities and hospitals

The cost of this service should be met as to 75 per cent from Imperial funds and as to 25 per cent from local rates

7 Measures should be taken to render the best modern treatment of venereal diseases readily available for the whole community, and the arrangements should be such that persons affected by these diseases will have no hesitation in taking advantage of the facilities for treatment which are afforded

8 The organisation of these means of treatment should be in the hands of the larger local authorities (the councils of counties and county boroughs, These authorities should, subject to the approval of the Local Government Board, organise and carry into effect definite schemes for dealing with the diseases

9 Institutional treatment should, as far as possible be provided at general hospitals, and local authorities should, as the first step in the preparation of their schemes, approach the general hospitals in their areas with a view to making arrangements for treatment

10 Treatment at any institution included in a local authority's scheme should be free to all There should be no refusal to treat a patient who is unwilling to go to his own doctor

11 The treatment afforded at any institution should not be restricted to persons resident in a particular area

12 Special arrangements, such as evening clinics, should be made for the treatment of out-patients at hours convenient to the working classes

13 Subject to proper safeguards, local Authorities should be empowered to supply salvarsan or its substitutes gratuitously

14 The obligation should be impressed upon all doctors who treat syphilis and gonorrhœa in institutions or privately to hand cards of instruction and warning to their patients. These cards should be in some such form as those given in the report and should be provided at the public expense

15 Medical students and practitioners should have access, for educational purposes, to the treatment of venereal

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[1] Since this recommendation was approved the Notification of Births (Extension) Act 1915 has been passed

diseases at any institution dealing with these diseases as part of a local authority's scheme

16 In any case in which a local authority refuse to make provision for treatment the Local Government Board should be empowered to make arrangements directly with hospital authorities

17 The expenditure on schemes of treatment should be assisted by grants from Imperial funds It is suggested that these grants should be equivalent to 75 per cent of the expenditure incurred by local authorities The Local Government Board should be responsible for the distribution of these grants, and should lay down the conditions subject to which the grants are to be paid

18 The provisions of Section 22 of the Poor Law Amendment Act, 1867, should be available to secure the detention, where necessary, of Poor Law patients suffering from venereal diseases If necessary, the applicability of this section to the case of venereal diseases should be made clear by legislation

19 Steps should be taken, wherever necessary, to render the wards in Poor law institutions set apart for venereal cases suitable and cheerful Facilities for the best modern treatment should be provided in these institutions

20 The means for the diagnosis and treatment of venereal diseases by modern methods should be made available in prisons Where the medical officer of a prison considers that a local examination of a woman is necessary it should be made by a woman doctor

21 Arrangements should be made through Discharged Prisoners' Aid Associations or similar bodies for some person to keep in touch with discharged prisoners suffering from venereal disease, with a view to securing that they avail themselves of treatment and continue the treatment as long as may be necessary

22 Men in the Navy or Army suffering from venereal disease whose period of service has not expired should be detained until they are pronounced not infectious If necessary, additional hospital accommodation should be provided In cases where infectious men are entitled to claim their discharge, they should be encouraged to continue their treatment and where this treatment cannot be provided at a Service hospital, arrangements should be made for the treatment to be continued at a hospital or clinic working in connexion with a local authority's scheme

23 No system of notification of venereal diseases should be put in force at the present time When experience has been gained of the operation of improved facilities for diagnosis and treatment the question of notification should be further considered

24 The recommendations of the Select Committee on Patent Medicines regarding the prohibition of all advertisements of remedies for venereal diseases should be put into force

25 The law should be amended to provide that a communication made *bonâ fide* by a medical practitioner to a parent, guardian, or other person directly interested in the welfare of a woman, or man, and with the object of preventing or delaying a marriage with a person who is in an infectious condition from venereal disease, shall be a privileged communication

26 Statutory recognition should be given to the principle that infectious venereal disease constitutes an incapacity for marriage The process should be made available for all persons, however poor

If under the existing law the effect of a decree of nullity is to render the children illegitimate, the new statutory enactment should provide that the disabilities attaching to such a condition should not follow

27 Whether by means of compulsory attendance at a course of instruction in venereal diseases or otherwise it should be rendered certain that every medical student has adequate practical instruction in these diseases Every medical student should attend a course of practical instruction in skin diseases

28 Questions relating to syphilis and gonorrhœa should be systematically set in medical and surgical examinations, so that the knowledge acquired in these diseases by candidates for examination may be tested

29 More careful instruction should be provided in regard to moral conduct as bearing upon sexual relations throughout all types and grades of education Such instruction should be based on moral principles and spiritual considerations, and should not be based only on the physical consequences of immoral conduct

30 In elementary schools detailed instruction in class on sexual matters should not be undertaken

31 The practice, which has been followed by some head teachers, of having private interviews with pupils before they leave school, or if they show special need of guidance, in order to give moral instruction and to offer warnings against probable temptations, should be general

32 Instruction in these subjects should be provided in evening continuation schools and in factories and workshops For this purpose the aid of properly constituted voluntary associations should be enlisted A high standard of efficiency and tact should be required in the representatives of any voluntary association employed and the guidance of medical practitioners should be secured

33 Students in training colleges should be carefully prepared to enable them to deal with these subjects The best means of giving this instruction should be carefully considered by those who are responsible for these institutions

34 Every man on joining the Navy or Army should at the earliest possible period be fully warned of the grave dangers which venereal diseases involve and the warning should be formally repeated at intervals of not less than a year

35 The National Council for Combating Venereal Diseases should be recognised by Government as an authoritative body for the purpose of spreading knowledge and giving advice in regard to the question of venereal diseases in its varied aspects

Educational authorities should use for purposes of instruction only such literature as has received the imprimatur of the National Council

General Conclusions

We have endeavoured to make clear the grave and far reaching effects of venereal disease upon the individual and the race The evidence we have taken proves conclusively that these effects cannot be too seriously regarded and that they result in a heavy loss, not only of actual but of potential population, of productive power, and of expenditure actually entailed For reasons largely due to the special character of these diseases and the moral stigma attaching to them, it has been found impossible to present accurate estimates of the degree of their prevalence We have, however, been able to arrive at some important conclusions in regard to their relative prevalence socially and geographically

The medical evidence furnishes the fact that by early and efficient treatment, these diseases could be brought under control and reduced within narrow limits It is beyond doubt that on the one hand, treatment is in most cases unduly deferred and that, on the other hand adequate facilities for the best modern treatment do not exist Recent discoveries have armed the medical profession with means of combating venereal disease which were unknown in the past The object must be to bring these means to bear upon every infected person at the earliest possible moment

We are convinced that this object can be accomplished only by the action of Government directed to the solution of a great national problem We have recommended no drastic remedies, and except in certain special cases we have not advocated compulsion in any form The measures which we propose contemplate extended facilities for bacteriological diagnosis combined with the provision of adequate and skilled free treatment, the cost of which we consider should fall mainly upon the national exchequer These measures, if adopted without delay, will go far to remove the grave evils which our investigations have brought to light At the same time we hope that the knowledge of the gravity of venereal disease which our report will impress upon the public and the teaching which we recommend will have the effect of inducing infected persons to make full use of the facilities for treatment which, we trust, will be provided forthwith

The terms of our reference precluded consideration of the moral aspects of the questions with which we have dealt. We are, however, deeply sensible of the need and importance of the appeals to conscience and honour which are made by the religious bodies and by associations formed for this purpose We believe that these appeals will gain force if the terrible effects of venereal disease upon innocent children and other persons who have no vicious tendencies are more fully realised Our evidence tends to show that the communication of disease is frequently due to indulgence in intoxicants and there is no doubt that the growth of temperance among the population would help to bring about an amelioration of the very serious conditions which our inquiry has revealed We are also conscious of the fact that overcrowded and insanitary dwellings indirectly contribute to the spread of disease and from improvements in this direction we should expect some diminution of its prevalence Improvement in the moral standard and in social conditions may, however, be slow, and we are convinced that upon ample provision for early treatment and readiness to take advantage of it any real progress towards the diminution of these diseases as a most baneful factor in the national life must mainly depend

We recognise that the measures which we propose will need for success more than legislative and administrative measures taken by Government Continuous and consistent efforts will be required to keep the complex question of combating venereal disease before the public mind and to secure the constant assistance of voluntary agencies concerned in prevention and rescue work We hope that the National Council established with this object will become a permanent and an authoritative body well capable of spreading knowledge and giving advice in regard to this question in its varied aspects, and that it will be recognised as such by Government

Our Report must issue at a time when all public activities are preoccupied in fulfilling the manifold needs of war We are conscious of the disadvantage thus arising, and we feel that there is some risk that our recommendations may not receive the immediate attention which their national importance demands We desire, therefore, to place on record our strong opinion that the conditions now existing and those which must follow on the conclusion of the war imperatively require that action should be taken without delay There is no reason to believe that the percentage of infection in the naval and military forces is now greater than in normal times, but there can be no doubt that the total of infected persons has increased The military authorities are doing their utmost to provide treatment, but the civil population requires corresponding measures, and all experience shows that after a war an excessive incidence of disease is certain to occur, even in districts previously free In order to meet present and future conditions, it is essential to make provision, and no time should be lost

We are, therefore, convinced that it will not suffice to establish treatment centres in places where sailors and soldiers are congregated, and that these will be needed in most of the larger and in some of the smaller towns We realise the claims of economy at the present moment, but for reasons we have given we believe that all necessary expenditure will be recouped by the results which can be obtained

Lastly we wish to lay stress upon the needs of the future The diminution of the best manhood of the nation, due to the losses of the war, must tell heavily upon the birth rate—already declining—and upon the numbers of efficient workers The reasons for combating by every possible means, diseases which in normal times operate with disastrous effects alike upon the birth rate and upon working efficiency are, therefore, far more urgent than ever before Now and in the years to come the question of public health must be a matter of paramount national importance and no short sighted parsimony should be permitted to stand in the way of all means that science can suggest and organisation can supply for guarding the present and future generations upon which the restoration of national prosperity must depend

The Report was signed by all the Commissioners, Sir Kenelm Digby and Canon Horsley appending certain notes in reservation

IRELAND

(FROM OUR OWN CORRESPONDENTS)

Trinity College and Sir Patrick Dun's Hospital

FOR the past 50 years Sir Patrick Dun's Hospital has been in a sense the hospital of the medical school of Trinity College That is to say, that the professors of the medical school were *ex officio* the physicians and surgeons to the hospital, while at the same time students were not limited to Sir Patrick Dun's in their choice of a hospital When this arrangement was come to some 50 years ago the College, in return for its right to appoint the surgeons to the hospital, agreed to contribute to its upkeep The device resorted to to provide the grant was very ingenious, and it ensured that the grant should bear a strict proportion to the number of students in the school It was decided to charge a fee of £10 to every student of medicine who offered himself for examination for the qualifying degrees in medicine and surgery in Trinity College This fee was known as the *liceat ad examinandum* fee, and the total amount thus raised was to be paid by the College to Sir Patrick Dun's Hospital It was probably thought at the time that all, or nearly all, the Trinity College students would attend clinical instruction at Sir Patrick Dun's Hospital, but as a matter of fact for one reason and another, a fairly large proportion of them elected to receive their clinical instruction elsewhere The forcing such students to contribute to the upkeep of an institution from which they derived no benefit has always appeared to be an anomaly The Board of Trinity College has recently had under consideration the relatively high cost of obtaining a medical qualification in its school, and has decided that the *liceat* fee is to be abolished The grant, though not large, has come to be regarded as part of the endowment of the hospital, and its cessation might seriously hamper useful activities The hospital has rendered notable services to the College, and it is to be hoped that the College will be able to make such arrangements as will safeguard the financial security of the hospital

Dispensary Medical Officers on War Service and their Substitutes

Boards of guardians throughout Ireland have, for the most part, shown a fair spirit in dealing with applications for leave from their medical officers who wish to accept war service They have not only given, as a rule, fair terms in regard to payment of salary, but they have been willing to accept the suggestions offered by the departing officers as to the discharge of their duties while absent It is of the greatest importance to the medical officer that this should be so, since in country districts he has no choice but to hand over his private practice to the medical man who is appointed to discharge his dispensary duty It is to be regretted that in a few instances boards of guardians have subsequently attempted to alter the arrangements at first agreed to by them and to dislodge the substitute nominated by the absent officer In one such case which has occurred in the Lisnaskea union the Local Government Board has refused to sanction the alteration of plans proposed by the guardians From another union it is reported that a medical man has moved into the district of an absent medical officer and has ousted the substitute nominated by the latter, and secured for himself certain club appointments previously held by the absent officer In both these cases the medical man who is acting in opposition to the interests of the absent medical officers was until recently a medical adviser of the National Health Insurance Commissioners If instances such as these occur with any frequency they will greatly interfere with the recruiting of medical men

The Tuberculosis Scheme in Belfast

It appears that under the Insurance Act a sum of money was allocated to Ireland for buildings apart from sanatoriums, and of this £13,000 was allocated to Belfast Out of this the committee of management of hospitals and dispensaries intended to erect a new institute at a cost of over £4000, and the plans had been approved by the Local Government Board but the Treasury has refused to advance the money during the war, and so for the present none of the £13,000 is available. One of the aldermen at a meeting of the Belfast city council held on March 1st blamed the committee for not having come to some arrangement earlier, by which this money could have been obtained before the outbreak of the war It is hoped however, that when hostilities have ceased the money will still be given by the Government

The Belfast Medical Students' Association

At a largely attended meeting of the Belfast Medical Students' Association held on Feb 18th, Dr. R L Rea, the President, being in the chair, an address was delivered by Professor Sir John Byers on the Medical Dialect and Folk lore of the North of Ireland The lecturer began by pointing out the importance of knowing the curious words and phrases employed during illness These expressions gave at times a wondrous insight into the working of the patient's mind Folk lore, mythology, and fairy lore provided glimpses of the primitive imagination of man, and many of the medical dialect words used in Ulster were survivals of words which had become obsolete in other parts of the country The wealth of dialect in the North of Ireland was due to the Celtic, Norman, Scotch, English, and French Huguenot immigrations, and the lecturer gave examples of curious words and expressions applied to various parts of the body, and their diseases An interesting discussion followed, which was opened by the President

The Scarcity of Petrol

The medical profession in Ireland are feeling a good deal at present the scarcity of petrol, and there is a strong opinion that the Government should take some measures by which the members of a profession which has rendered so much public service in this war should not be inconvenienced To limit the supply to one third will make medical practice impossible

March 6th

THE SERVICES

Royal Navy Medical Service

THE following appointments have been notified —Fleet-Surgeon P V Jackson to *Vivid* Staff Surgeons J Macdonald to *Highflyer* and D P Chapman to *Adventure* Temporary Surgeons H Wetherbee to *Canopus*, J A W Robinson to Haslar Hospital, and P M Grundy to *Gibraltar*

Royal Naval Air Service

The following appointment has been notified —Surgeon E L Markham to *President*, additional

Royal Army Medical Corps

Lieutenant-Colonel R B Graham, late R A M C (T), to be temporary Lieutenant-Colonel

The undermentioned Majors to be temporary Lieutenant-Colonels whilst in charge of Stationary Hospitals A. McMunn and R R Lewis

Major E McDonnell to be temporary Lieutenant-Colonel whilst in charge of a Casualty Clearing Station

Temporary Honorary Major C A R Nitch relinquishes his commission on ceasing to be employed with the British Red Cross Hospital, Netley

H S Souttar to be temporary Honorary Major whilst serving with the British Red Cross Hospital, Netley

Captain J J O'Keefe to be temporary Major whilst in command of a Field Ambulance

Temporary Honorary Captain G Dreyer to be temporary Honorary Major

Canadian Army Medical Corps Captains to be temporary Majors S A Smith, D S O, G B Peat and C K Russell To be temporary Captains Lieutenant A Le Boeuf, Lieutenant Thomas Roger Cardew Hays Hicks, F B Day and R N W Shillington Lieutenants to be temporary Lieutenants P W Tuller, J E Carmichael, A. E Whitmore, R C Robinson, W S T Connell, and D M. Baillie

Captain R G Archibald is seconded for service with the Egyptian Army

Temporary Lieutenants to be temporary Captains H S Berry and H E Battle

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants —G O Hempson, G M Yevers, E B Barnes, and G S Graham

The undermentioned to be temporary Lieutenants —L F McDowell, H A. Boyle, S E Bethell, C A L Evans, G C Metcalfe, R A Slater, A C Mackay, W Corbet J H Waterhouse, E C E Barnes, G G Old, E R Dermer A. D Morris, J B Robertson, Second Lieutenant J H Porter (from the Royal Fusiliers (City of London Regiment)), Second Lieutenant T W G Johnson (from the Connaught Rangers), J B Stevenson, W J Dilling K. T Limbery, L R Pickett, D MacC Brown A McCawley, D J Evans, C W Webb, J A Tippett, C K Carroll, P H Young J B Rae, J M Ross, J B Robertson R E Drake Brockman, C I Hannigan, A N Drury, A C D Newton O W Gange J G Leslie, L A W Johnson Temporary Lieutenant S P Bedson (from the Northumberland Fusiliers)

Captain (Local Major) W F Christie relinquishes his local rank on ceasing to be Senior Medical Officer at the Straits Settlements

Temporary Honorary Lieutenant H Nockolds relinquishes his commission on ceasing to be employed with No. 3 British Red Cross Hospital

Temporary Lieutenants A. E Clarke, J W Martin E L Marsh, and J H Yule relinquish their commissions

Indian Medical Service

Major Ward, I.M S, has been appointed Inspector General of Prisons in the Punjab in place of the late Colonel Braide Major Ward will for a short time continue to act as Superintendent of the Central Jail, Lahore

Special Reserve of Officers

Army Medical Service

Colonel W H. Bull, from Assistant Director of Medical Services, to be Colonel

Royal Army Medical Corps

Captain H G Traver to be temporary Major while commanding a field ambulance

The undermentioned Lieutenants to be Captains —Alan R. Laurie, John T Scrogie, and Robert F Walker

General Reserve of Officers

Royal Army Medical Corps

Lieutenant D V M Adams to be Captain

Territorial Force

Army Medical Services

Major W E Miles, from the Territorial Force Reserve, to be Deputy Assistant Director of Medical Services, London Division

Captain (temporary Major) C M Fegen, from the Sanitary Service, to be Deputy Assistant Director of Medical Services, 2nd London Division

Royal Army Medical Corps

Eastern Mounted Brigade Field Ambulance Lieutenant V M Wallis to be Captain

South Midland Field Ambulance Lieutenant W G McKenzie to be Captain

North Midland Mounted Brigade Field Ambulance Lieutenant S A. S Malkin to be Captain

Home Counties Field Ambulance Lieutenants J J C Hamilton and A L Sharpin to be Captains

London (City of London) Field Ambulance M J Hackett to be Lieutenant

Lowland Field Ambulance Lieutenants to be Captains J W G H Riddel and R Lawson

London General Hospital Captain K B Clarke relinquishes his commission on account of ill health Lieutenant W H Lloyd and Lieutenant H G Mallam to be Captains

Northern General Hospital Lieutenant H G Dodd to be Captain

Southern General Hospital Lieutenant R W Acheson to be Captain

Home Counties Divisional Sanitary Section Captain A E Tait, from North Midland Field Ambulance, to be Captain

London Sanitary Company T Legge to be Lieutenant

Highland Mounted Brigade Field Ambulance Lieutenant W H Milligan to be Captain

East Anglian Field Ambulance Lieutenant (temporary Captain) G C Gray relinquishes his commission on account of ill health

North Midland Field Ambulance Lieutenant (temporary Captain) C M Cowper relinquishes his commission on account of ill health

Welsh Field Ambulance Lieutenant J E Dunbar, from South Wales Mounted Brigade Field Ambulance, to be Lieutenant

East Lancashire Field Ambulance Major F W Marsden relinquishes his commission on account of ill health

London Field Ambulance Temporary Captain G E Nash to be Captain

Western General Hospital Lieutenant J G McKinlay to be Captain

Supernumerary for Service with the Officers Training Corps V G L Fielden to be Lieutenant (temporary) for service with the Medical Unit, Belfast University Contingent Senior Division, Officers Training Corps

Attached to Units other than Medical Units —Lieutenant H Connop and Captain G E Nash, from London Field Ambulance, to be Captains

Visit of the King to the Royal Army Medical College

The King visited the Royal Army Medical College, Grosvenor road S W, on March 7th when he was received by Surgeon General Sir Alfred Keogh (Director General Army Medical Service) Surgeon General Sir David Bruce (Commandant of the College) Colonel W H Horrocks Lieutenant Colonel D Harvey Major I H Starling, Professor Baker, and Professor Hill

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 95 English and Welsh towns with populations exceeding 50,000 persons at the last Census 7795 births and 6176 deaths were registered during the week ended Saturday, March 4th The annual rate of mortality in these towns which had been 15 2, 16 3, and 15 7 per 1000 in the three preceding weeks, rose in the week under notice to 17 8 per 1000 of their aggregate population, estimated at 18,135,180 persons at the middle of the year 1914 During the first nine weeks of the current quarter the mean annual death rate in these towns averaged 15 1, against a corresponding rate of 14·4 per 1000 in London The death-rate last week ranged from 8·6 in Ilford, 8 8 in Hornsey, 9 4 in Leyton 10·3 in Eastbourne, and 10·8 in Wigan to 23·5 in Gillingham 24·0 in Stockport, 26·2 in Cambridge, 26·6 in Exeter, and 27 8 in Liverpool

The 6176 deaths from all causes exceeded the number in the previous week by 727, and included 409 which were referred to the principal epidemic diseases, against 377 and 351 in the two preceding weeks Of these 409 deaths 120 resulted from measles, 114 from whooping-cough, 82 from diphtheria 65 from infantile diarrhœal diseases, 17 from scarlet fever and 11 from enteric fever but not one from small pox. The annual death rate from these diseases was equal to 1 2, against 1·0 per 1000 in the previous week. The deaths attributed to measles, which had increased from 62 to 93 in the four preceding weeks, further rose to 120, and caused the highest annual death rates of 1 7 in Bristol and in Rochdale 2 7 in Wolverhampton and in Great Yarmouth, 3 5 in Stockton-on Tees, 3 6 in Leicester, 3·9 in Swansea, and 4 1 in Stockport. The deaths referred to whooping-cough, which had been 121, 133 and 116 in the three preceding weeks further fell to 114 the highest death rates from this cause were 1 1 in West Ham, in Ilford, in Wolverhampton, and in Birmingham, 1 4 in Bootle and 1 7 in Gateshead and Swansea The fatal cases of diphtheria, which had been 71, 61 and 55 in the three preceding weeks, rose to 82 and included 26 in London 7 in Liverpool, 4 each in West Ham and Stoke-on Trent, and 3 each in Southport Sheffield and Middlesbrough The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 64, 73, and 57 in the three preceding weeks rose to 65, of which 14 occurred in London, 5 in Manchester and 4 each in Nottingham and Liverpool The deaths attributed to scarlet fever, which had been 18 25 and 14 in the three preceding weeks rose to 17, of which 2 were recorded in London The 11 fatal cases of enteric fever were slightly in excess of the average in the earlier weeks of the quarter, and included 2 each in London Manchester, and Sheffield

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had declined from 2257 to 1959 in the five preceding weeks, further fell to 1939 on Saturday last, 234 new cases were admitted during the week, against 195, 215, and 194 in the three preceding weeks These hospitals also contained on Saturday last 1537 cases of diphtheria 211 of whooping-cough, 104 of measles and 57 of enteric fever but not one of small pox. The 1534 deaths from all causes in London were 271 in excess of the number in the previous week and corresponded to an annual death rate of 17 7 per 1000 The deaths referred to diseases of the respiratory system which had increased from 224 to 284 in the four preceding weeks further rose to 373 but were 95 below the number registered in the corresponding week of last year

Of the 6176 deaths from all causes in the 95 towns 185 resulted from violence and 479 were the subject of coroners inquests while 1795 occurred in public institutions The causes of 59 or 1·0 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts in Leeds Bristol Bradford Newcastle-on Tyne and in 45 other smaller towns Of the 59 uncertified causes 13 were registered in Birmingham 8 in Liverpool, and 3 each in Blackpool and Darlington

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2,355,300 persons at the middle of this year 1175 births and 730 deaths were registered during the week ended Saturday March 4th The annual rate of mortality in these towns which had been 16 3 15 5 and 16 2 per 1000 in the three preceding weeks was again 16 2 per 1000 in the week under notice During the first nine weeks of the current quarter the mean annual death rate in these towns averaged 15 3 against a corresponding rate of 15 1 per 1000 in the large English towns The death rate last week ranged from 9 5 in Kilmarnock, 9 9 in Motherwell and 10·0 in Perth, to 20·0 in Hamilton, 20·7 in Aberdeen, and 21 8 in Coatbridge

The 730 deaths from all causes were 2 below the number in the previous week, and included 56 which were referred to the principal epidemic diseases, against 69 and 65 in the two preceding weeks Of these 56 deaths 23 resulted from measles, 10 from diphtheria, 9 from scarlet fever, 8 from infantile diarrhœal diseases, and 6 from whooping-cough, but not one from small pox or enteric fever The annual death rate from these diseases was equal to 1 2 and coincided with that recorded in the large English towns The deaths attributed to measles which had been 32, 34, and 28 in the three preceding weeks, further fell to 23, and included 14 in Glasgow, and 3 each in Coatbridge and Kilmarnock. The deaths referred to diphtheria, which had been 18, 15, and 8 in the three preceding weeks rose to 10, of which 4 were registered in Glasgow and 2 each in Aberdeen and Paisley The fatal cases of scarlet fever, which had been 11, 11, and 15 in the three preceding weeks, fell to 9, 3 deaths occurred in Aberdeen and 2 each in Glasgow and Paisley The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 3, 6, and 8 in the three preceding weeks were again 8 in the week under notice, and included 3 in Glasgow and 2 in Aberdeen. The 6 fatal cases of whooping-cough were 3 in excess of the average in the earlier weeks of the quarter, and included 2 each in Glasgow and Coatbridge

The deaths referred to diseases of the respiratory system, which had been 95, 88, and 126 in the three preceding weeks further rose to 134 in the week under notice, but were 130 below the number registered in the corresponding week of last year The deaths from violence numbered 21, against 35 and 30 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 19 town districts of Ireland with populations exceeding 10 000 persons at the last Census, 519 births and 397 deaths were registered during the week ended Saturday, Feb 26th The annual rate of mortality in these towns, which had been 19·0 20 2 and 18 8 per 1000 in the three preceding weeks, fell in the week under notice to 18·0 per 1000 of their aggregate population estimated at 1 148,468 persons at the middle of last year During the first eight weeks of the current quarter the mean annual death rate in these towns averaged 18 7, against corresponding rates of 14 8 and 15 2 per 1000 in the English and Scotch towns respectively The death rate during the above week was equal to 20·4 in Dublin (against 14·6 in London and 15 1 in Glasgow), 16 8 in Belfast 15·0 in Cork, 20·2 in Londonderry 20 3 in Limerick, and 9 5 in Waterford while in the 13 smaller towns the mean rate was 16 7 per 1000

The 397 deaths from all causes were 17 fewer than the number in the previous week, and included 29 which were referred to the principal epidemic diseases, against 34 and 30 in the two preceding weeks Of these 29 deaths, 9 resulted from measles 7 each from whooping-cough and infantile diarrhœal diseases 4 from scarlet fever, and 2 from diphtheria but not one from enteric fever or small pox. The death rate from these diseases was equal to 1 3 against corresponding rates of 1·0 and 1·4 per 1000 in the English and Scotch towns respectively The deaths attributed to measles, which had been 5 10, and 9 in the three preceding weeks were again 9 during the week, and comprised 5 in Belfast, 3 in Dublin, and 1 in Cork. The deaths referred to whooping-cough, which had averaged 11 in the three preceding weeks, fell to 7, 4 deaths were recorded in Belfast 2 in Limerick, and 1 in Dublin The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 8 4, and 5 in the three preceding weeks rose to 7, and included 4 in Belfast and 2 in Dublin The 4 deaths from scarlet fever, of which 3 occurred in Belfast, were slightly in excess of the average in the earlier weeks of the quarter The fatal cases of diphtheria were registered in Dublin and Belfast

The deaths referred to diseases of the respiratory system, which had been 76, 85, and 68 in the three preceding weeks, rose to 92 in the week under notice but were 89 below the number registered in the corresponding week of last year Of the 397 deaths from all causes, 121 or 30 per cent. occurred in public institutions and 8 resulted from violence The causes of 15 or 3 8 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Dublin 4 in Belfast, and 3 in Cork, in the large English towns the proportion of uncertified causes did not exceed 1 1 per cent.

DONATIONS AND BEQUESTS —The late Miss Clementina Christie of Broughty Ferry, bequeathed £500 each to Dundee Royal Infirmary and to the Home for Incurables King street Dundee, and £300 to the Convalescent Home at Barnhill.

Correspondence.

"Audi alteram partem

THE PRESENT POSITION OF MIDWIVES

To the Editor of THE LANCET

SIR,—As one who is keenly interested in the midwifery outlook may I venture to question whether the optimistic tone in the leading article under the above heading in your issue of Feb 26th can be altogether justified by fact? We dare not comfort ourselves with the number of midwives upon the roll, as a large proportion have never had the slightest intention to practise, and the mothers and infants of the country would therefore have been equally benefited had they passed an examination in Sanskrit Your article assures us that there is no shortage of midwives in towns Neither was there before the Midwives Act was passed, and for the same reason—i e, the large number of untrained women in practice In 1914 the Central Midwives Board estimated the numbers of trained and untrained practising midwives as equal And our training—how far has this been brought after all these years? Is there one midwife in 100—or shall I say 1000?—who systematically tries to ascertain *and to prevent* the complications that threaten her patient at the time of booking? A few may possibly test the urine of primiparæ a month or two before labour, but how many contracted pelves are sent up for advice to our hospitals and consultants on a midwife's finding, or how many women with the habit of abortion for diagnosis, and treatment? What ideas has the ordinary midwife on the management of breast feeding (quite an intricate science in itself) and the still more involved details of supplementary or artificial feeding? Her views are mostly bounded by some one tinned food, or else the archaic milk and barley water, dealt out in unvarying strength and quantity to all comers It will take us many generations to greatly improve the statistics of our infant mortality if we rest satisfied with our midwives and their training as we find them at present

Your article admits that there may be some shortage in the country districts, although even then our anxiety is lulled to rest by the statement that "as the old midwives die off they are being replaced by trained women" And yet the 1915 Report of the Local Government Board speaks of 51 villages in Bedfordshire and large areas in Cornwall without a midwife of any kind, "a serious shortage" in parts of Cheshire and Wales, "places very hard to fill" in Wiltshire, and adds significantly, "In the majority of areas with scattered populations the services of a midwife are lacking" In such areas the doctor may be several miles off, and the demand upon the time of the panel doctor may render it impossible to obtain his services at the critical moment Wales is, of course, one of the blackest spots in the United Kingdom in all matters relating to childbearing, the proportion of *bona fide* midwives there has always been enormous, and we were not surprised to find in the same report that the total maternal death rate per 1000 births in that country was quite recently 5 58, as against 3 86 for the rest of England, and 3 03 in the poor district of Battersea In the same way the infant death rate varies, in the same period of years, between 41 and 18 in 1000, the difference between the two figures showing approximately the number of infant lives that might be saved, even with our present imperfect knowledge, during the first week of life Other factors undoubtedly influence these statistics, but the skill and wisdom of the attendant at birth and during the puerperium cannot be held a negligible factor It is no gentle anodyne of a soothing nature that we require in these times of stress and wholesale slaughter, but a drastic revolution in the training of our young people, and more especially of those who have so great an influence on the life and death of the next generation

We greet with satisfaction the increased length of training demanded by the Central Midwives Board, but we can hardly consider that the ideal has been attained when we reflect that in order to nurse any sort of disease, to attend any kind of surgical disaster *under a doctor* a three years course is necessary Midwifery has, perhaps, more possibilities of sudden and fatal emergencies than any other branch of the healing art, and it is hardly likely that a woman should be equipped either to diagnose such emergencies beforehand or to deal with them until the arrival of the doctor in one sixth of the time that it takes her more protected sister to learn how to nurse a case of acute rheumatism or a fractured tibia

I am, Sir, yours faithfully,

ALICE S GREGORY,

Honorary Secretary British Hospital for Mothers and Babies and National Training School for District Midwives.

Woolwich March 2nd 1916

WHAT IS THE SIMPSON LIGHT?

To the Editor of THE LANCET

SIR,—In your issue of March 4th an article appears by Dr J A Menzies on the Treatment of Septic Wounds with the Simpson Light The following good effects are claimed (1) relief of pain, (2) increase of movement, (3) relief of swelling, (4) absorption of scar tissue, (5) stimulation of unhealthy granulation tissue, and (6) diminution of discharge The author further claims to have had good results in two cases of Graves s disease

So far as wounds are concerned, there is not one of these good effects which cannot be brought about by judicious X ray treatment, unless, of course, there is some definite surgical cause which prevents their healing X rays are extensively used at the Cambridge Hospital, Aldershot, for all the above purposes, and especially for the relief of pain and the softening and absorption of scar tissue

What is the Simpson light? An illuminating discussion at the Electro therapeutical Section of the Royal Society of Medicine in January last brought out the following facts The spectrum of the Simpson arc appears to be identical with that of tungsten It is a source of very abundant ultra violet rays, some of which are rather more penetrating than those from a Finsen lamp Even the hardest of them are, however, completely absorbed by 2–3 mm of human tissue (Sidney Russ) Dr J H Sequeira also showed that the production of erythema of the skin can be prevented by the interposition of thin layers of paper He concluded that deep effects, when they occur, must be due to counter irritation.

The Simpson light has been boomed in the public press as a new kind of X ray" It cannot be too emphatically stated that the radiation from a Simpson arc is in no way related to that from an X ray tube, except in so far as both are forms of "light," using the term in its technical sense The good results in some cases are not in dispute These benefits can, however, be obtained in general by X rays, and the advantages of the tungsten arc remain to be proved It is claimed that there can be no ill effects—a bold claim, surely, to make so soon, when the history of the Roentgen ray is remembered. In the treatment of any lesion when a deep effect is sought, it would seem foolish to use a feebly penetrating radiation Anyone who has had experience of the rapid and remarkable effect of X rays on Graves's disease will not be likely to abandon them for any new method without some very strong reason

It would be much better to speak of the "tungsten arc' than of the Simpson light—or, at any rate, of the "Simpson tungsten arc", this would tend to take away the air of mystery which seems to be gathering round the subject As the rays in question are on the whole rather more penetrating than those from other sources of ultra violet light they should certainly be investigated therapeutically Some cases may be found which do better under them than under X rays, but any suggestion that a new therapeutic agent has been discovered is strongly to be deprecated I have heard of advanced cases of deep seated cancer being treated by the "Simpson" light The rays probably stimulate general metabolism, as will any form of light, but only the very ignorant could suppose them capable of reaching and directly affecting an internal growth.

I am, Sir, yours faithfully,

F HERNAMAN JOHNSON

Cavendish square W March 4th 1916.

DIAGNOSIS OF RUPTURED INTESTINE

To the Editor of THE LANCET

SIR —Whilst congratulating Mr R P Rowlands on the well deserved success which he obtained in the treatment of his case of ruptured intestine,[1] I should like to add somewhat to his remarks on the diagnosis of these lesions Surgeons since the time of John Croft, if not before, have placed the greatest reliance on the symptoms which Mr Rowlands has accepted as the most important—pain, tenderness, and rigidity of the abdominal muscles Having considered the subject of abdominal injuries for some years, and had some experience as a hospital surgeon I have come to the following conclusions as regards rupture of the small intestine[2] They may be divided into three groups

(a) Those in which there is shock, vomiting acute abdominal pain with great tenderness over the part struck and board like rigidity of the abdominal wall All these symptoms are present but they vary somewhat in their intensity, at one time shock is the main symptom, at another it is the pain and so on With these symptoms will be found a certain amount of dullness on percussion This group forms about 50 per cent of all cases

(b) In this group there is no evident shock, and perhaps the patient goes to the hospital on foot or goes home congratulating himself that he has had a ' narrow escape ' He may have vomited after the accident which made him feel faint but there are no marks of injury on the abdominal wall or they are but slight He has considerable local pain and there is rigidity of muscle sometimes confined to the side of the abdomen which was struck There is tenderness on pressure and perhaps localised dullness, but the man feels that he will soon get over it, and probably remains under treatment with reluctance, or neglects to call in medical advice when he gets home This group forms about 35 per cent of the total number of cases

(c) In the third group the symptoms are more indefinite, there is a history of abdominal injury, probably of the kind which sometimes produces a rupture of the intestine, but the shock is trifling; there is no vomiting, local pain is slight or absent, there is little tenderness, no rigidity of muscle, whilst percussion shows no change After a variable time there may be a rising pulse, with that change in facial aspect which indicates to the experienced eye the presence of grave peritoneal inflammation It may not be easy to say at what moment this commenced, but "a change has taken place" It may develop after an attack of vomiting, as in the case under the care of the late Mr Walsham. That surgeon, who was patiently watching for symptoms in a case of this kind, found a complete change after the patient had vomited, and operating at once, gained a success In yet another patient the onset of serious symptoms may be sudden and unexpected, caused by the giving way of a portion of severely contused bowel

In the large majority of recorded cases the presence or absence of dullness on percussion is not mentioned in the published account, and an extensive extravasation of blood due to ruptured mesentery is very rare. A localised dullness, caused by a limited hæmorrhage, escape of intestinal fluid, or collapsed gut is not unusual

The St Thomas's statistics of the results of operation for the years 1886 to 1910 inclusive were 31 operations with 10 recoveries, whilst during the same period seven others were admitted which died from the injury They were mostly too far gone to permit of operation The small intestine was ruptured in 25 (of these five recovered), the large intestine in six, of which five recovered

My late colleague, Mr Bernard Pitts, used to advise that exploration should be done where there was a clear history of abdominal injury, such as by the kick of a horse or a mule, no matter what symptoms were present when the surgeon saw the patient Few surgeons will disagree with this advice.

I am, Sir, yours faithfully,

Harley street W Feb 25th 1916. W H. BATTLE

INOCULATION OF CIVILIANS AGAINST THE ENTERIC GROUP

To the Editor of THE LANCET.

SIR,—The far seeing annotation in THE LANCET of Feb 12th, and Dr R Donaldson s suggestions in the issue of Feb 19th, concerning the recent outbreak at Reading, deal with public and individual prophylaxis against the infection, including the isolation of the carriers as well as of the sufferers A further duty is to deal with its supply by suppressing the carrying evil This would not be suppressed by merely curing our carriers if we disposed of a cure for them—for want of any being put into operation we are still wasting much money medical labour, and military service in isolation hospitals There is no other way but 'to prevent its possibility' by an efficient bowel sanitation as part of the treatment of the fever For the febrile, as well as for the cured typhoid carrier (and also for the typhoid intact or contact carrier) the chief objective for rational treatment is the fæcal indication As a general infection typhoid is self limiting by saturation, because the blood and the tissues are a limited breeding ground The fæcal breeding ground being constantly renewed is unlimited, and the intestinal culture persists after the blood and tissues have recovered *Acoprism* (ἄκοπρος, Hippocrates), by temporary suspension of fæcal production, is not a visionary proposition it has been *put* to the test in typhoid, though opportunities have failed me *for* its *application* in dysentery and *other* intestinal infections, and in healthy *carriers* It is, apart from the wished for bacteriological abortive cure, our only means for checking the progress and the worst evils of typhoid—re absorptive intoxications from the fæces, and sloughing of the ulcers from perpetual contact with the organisms of sepsis An empty bowel is the first requisite for an efficient use of animal charcoal as an adsorptive for toxins, and likewise for the efficiency of its well known cleansing *and protecting* action for ulcers, this has recently been utilised with striking results for wounds, both in the field for the prevention of sepsis, and in base hospitals for its cure The other simple requisite is a regulating morning dose of castor oil to expel the charcoal day by day, and with it its sweepings of infected mucus and other secretions Detoxication is soon manifest in the patient's improvement and in the readings of his chart, whilst our bacterioscopic identification of the more slowly progressive bowel disinfection is much facilitated If after four weeks of this cleansing treatment nothing should *remain of the original fæcal* culture the carrying evil will have *been practically* prevented

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[1] THE LANCET, [illegible]

[2] [illegible]

The disinfection of carriers is a much easier and shorter task, if we may trust the reports of recent cures obtained abroad, with the help of animal charcoal According to other reports, dysentery has also been greatly benefited, and cholera in a surprising degree, by animal charcoal It does not seem, however, to have been recently prescribed in typhoid, where it is so much needed But charcoal is now being used *to facilitate* its detection in the fæces the quickest method is based upon its recently discovered selective attraction for *typhoid bacilli*

The principle of a residueless alimentation was foreshadowed in Sir William Jenner's warning against *too* much milk, and in Prideaux Selby's historical paper on Whey, and was fully described in my paper on the Empty Bowel Treatment—*Traitement à vide*[1] I may incidentally suggest that there is room for it in the rational treatment of fæcal stasis before any heroic mutilations can be reasonably contemplated As regards its practical safety and efficiency, it is enough to say that it can supply unlimited calories *easily reckoned, together* with the complete variety of a healthy dietary Solid cane sugar is all food and a heart tonic as well Yolk *of egg* is *almost completely* absorbable in the upper bowel likewise predigested albumin and starch, butter, cream, whey, meat jellies, fruit jellies, *clear* vegetable soups (of greater nutritive value perhaps to the patient and of less value to the organisms *than beef tea*), and lastly red wine, the blood making value of which we have too much neglected None of them deposits any appreciable residue, they leave a clear field for our direct antiseptic treatment of the mucous membrane, in all our intestinal infections

I am, Sir, yours faithfully,

Upper Brook-street W, Feb 25th 1916. WILLIAM EWART

To the Editor of THE LANCET

SIR,—My attention has been drawn to the fact that in my letter to THE LANCET of Feb 19th on the Danger to Civilian Communities of a Typhoid Paratyphoid Outbreak, I *omitted* to mention the method employed in determining the agglutination value of the sera examined It is a point, perhaps, of some importance, and I beg leave, Sir, to refer to it now The macroscopic method was adopted as being infinitely *easier* where many sera have to be examined, and in addition more accurate The suspensions of bacilli used were those sent out by the Standards Laboratory, *Oxford*, under the title of Standard Agglutinable Cultures, of which three are issued, containing B typhosus, B paratyphosus A, and B paratyphosus B, respectively Definite dilutions of the patients' sera were put up against *all three* cultures and the highest dilution noted in which agglutination occurred It would be well in civil practice, at least in epidemic periods, to record the results obtained by testing all sera against all *three organisms* May I add that the Reading Laboratory, in common with many others in this country and abroad, is deeply indebted to the *Oxford Laboratory*, which, at the instigation of the Medical Research Committee, provides these standard cultures

Apart from the *fact that* various laboratories are enabled to use the same standard cultures, thus tending to secure uniformity of results, it is an enormous saving of time to many laboratories which at the present time are understaffed and over worked Might I make *a suggestion* in *this* connexion—viz, that the provision of a central depôt from which the various media in common use could be issued, would *be of* immense service to the various war laboratories? This work could be carried out expeditiously and on a large scale by a few laboratory assistants expert in media making, and would considerably relieve the pressure of routine work in *these laboratories*

I am, Sir, yours faithfully

Reading Feb 28th 1916 ROBERT DONALDSON

FUNCTIONAL NERVOUS DISEASE

To the Editor of THE LANCET

SIR,—It would perhaps tend to dissipate confusion if those discussing psycho analysis in the correspondence now proceeding under the above title were to become clearer as to what psycho analysis actually is The name, devised by Professor Freud, is used by him to denote (*a*) a certain technical method for the exploration of the unconscious mind, (*b*) the theory *necessarily* involved in the use of this method (one presupposing among other things, psychical determinism, the law *of* causality, &c), and (*c*) the accompanying study of the subject matter concerned Of late, presumably under the stimulus of the remarkable success achieved by psycho analysis, it has become the fashion in certain medical circles so to extend the term as to denote by it almost any clinical method of analysing mental processes, or even the ordinary *taking of a case history* That the practice has led to much quite avoidable confusion is not surprising In his letter of Jan 29th *Captain* n Brown proposes to remedy this state of affairs by the singular device of re christening the method "autognosis" Apart from the fact that this word is already in use in medical psychology in another sense, I should have thought a simpler solution, and one more consonant with accepted scientific etiquette, would be to see to it that the term "psycho analysis" is used only with the connotation given to it by its author

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[1] Brit Med Jour., 1906 vol ii, p 1501

Captain Brown defines the psycho analytic method to be that "of so called free association, whereby hidden memories and hidden relationships between conscious mental processes may be brought to light" Now, while it is true that this procedure is an extremely important one in the psycho analytic method, it is neither an essential one (not being employed, for instance, in the psycho analysis of anthropological data), nor does it comprise more than a relatively small part of the method It would be just as untrue to describe all study of dreams as psycho analysis merely on the ground that this study also plays an extremely important part in psycho analysis It does not seem to me that the procedure of free association requires any further name than that which it already has—viz, free association. Nor does it seem to me proper to designate as a psycho analyst everyone who makes any kind of clinical exploration of the mind, any more than it would be proper to call a butcher a surgeon merely because a part of their armamentarium—the knife—is common to both

I venture to add, without much fear of contradiction, that the statements made by more than one of your recent contributors, to the effect that they have seen many patients who have been harmed by psycho analysis, do not refer to the patients of those who are psycho analysts in the only legitimate sense of the word—i e, those who have been competently trained in the subject

I am, Sir, yours faithfully,

Portland Court W Feb 29th, 1916. ERNEST JONES

THE SIGNIFICANCE OF CERVICAL CAPILLARY MARKINGS

To the Editor of THE LANCET

SIR,—In a letter in your issue of March 4th Dr R Crawshaw Holt, referring to the possible connexion of certain cutaneous telangiectases with pulmonary tuberculosis writes —

> These markings are an abnormality, and though I have only seen them in association with pulmonary tuberculosis it is quite possible they may occur in association with other diseases but the fact has yet to be recorded

In "A Note on Cutaneous Telangiectases and their Etiology" 12 years ago,[1] after alluding to the well known "costal fringe" of telangiectases and its causation I wrote—

> Cutaneous telangiectases are indeed by no means limited to the costal fringe They may occur, scattered or in groups, on almost any part of the body One of the commonest situations is on the back of the thorax, on each side of the spinal column in the upper interscapular region In this situation, I think, a few hair like telangiectases can be found in 50 per cent of healthy young adults.

I am, Sir yours faithfully,

Harley-street W., March 4th 1916. F PARKES WEBER

To the Editor of THE LANCET

SIR,—I have been familiar for some time past with the peculiar "capillary markings" over the lower cervical and upper dorsal region of consumptive patients, to which Dr R Crawshaw Holt has drawn attention in your issue of March 4th It is well known that pulmonary tuberculosis, especially in the early stages, is accompanied by many reflex phenomena, such as cutaneous hyperalgesia, vertebral tenderness, and disturbances of the sympathetic nervous system The presence of vaso motor fibres in lung tissue may remind us that a sympathetic dilatation of the blood capillaries in the near vicinity of a tuberculous focus cannot be regarded as an impossibility These spider like markings, which I should prefer to call blue or purplish rather than red, have frequently been of considerable help to me in the diagnosis of an early case of phthisis If the physical signs of a suspected case be almost non existent, or very slight indeed, the presence of dilated capillaries about the seventh cervical or first dorsal vertebra has been sufficient to impress me with its tuberculous nature It would be interesting to learn the experiences of other clinical observers in connexion with the diagnostic value of this sign

I am, Sir, yours faithfully,

G NORMAN MEACHEN, M D, M R C P Lond

Durham March 4th 1916

A NEW METHOD OF RAPID X RAY LOCALISATION

To the Editor of THE LANCET

SIR,—I wish to put on record an entirely new method for ascertaining the depth of embedded foreign bodies which are capable of demonstration by the X rays Mechanicians are now at work evolving a simple and businesslike method of applying this system, and for this reason I merely state the principle

The tube is moved a short distance and the length of the excursion of the shadow of the foreign body noted The screen is now raised until this excursion has doubled itself. The distance the screen has been raised is the depth of the foreign body The extraordinary ease with which this can be accomplished, and the fact that no measurements are required except those given above, make this system, to my mind, the simplest and best I have ever come across

I hope in a very short time to be able to describe a piece of apparatus that will enable the depth of any foreign body to be ascertained in a few seconds Messrs Butt and Co are making every effort to bring out a suitable instrument in the course of a few weeks

I am Sir, yours faithfully,

EDWARD W H. SHENTON,

Senior Surgical Radiographer Guy's Hospital

Harley-street W March 2nd 1916.

A LETTER FROM LISTER

To the Editor of THE LANCET

SIR,—The accompanying letter from Lister gives so clear a picture of his method in such a case as the one described that it cannot fail to be surgically interesting and instructive The letter refers to a tuberculous elbow in a gentleman, aged 28, in which all three bones became involved and which I had excised a year before by Lister's advice, with the result of a small persisting sinus and too flail a joint necessitating a leather splint I followed the advice of the letter, with the result of a complete cure and an elbow with fair movement and fair fixation and the abandonment of the splint The arm remains healthy and very serviceable to this day I had the fortune to be a dresser in Lister's wards in the Glasgow Royal Infirmary in 1864–65 —I am, Sir, yours faithfully,

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[1] Edinburgh Medical Journal April 1904 p 347

T BATES, Sen.,
Honorary Consulting Surgeon Worcester General Infirmary
Worcester Feb 27th 1916.

[ENCLOSURE]

12, Park Crescent, Portland Place,
30th March, 1893

DEAR MR. BATES,—I quite agree with you as to the course to pursue in this case I did not push the probing very far, and did not feel any bare bone, but the chances are that there is recurrence of caries Free exposure of the affected parts and free scraping away of all tubercular tissue in the soft parts with the sharp spoon and free gouging of the bones if they prove to be diseased is certainly the thing to do You will probably do the operation bloodlessly, by applying an elastic bandage to the upper arm after raising the limb 2 or 3 minutes, and when the operation is over, before the bandage is removed, I would advise you to apply chloride of zinc solution, 40 grs to the ounce, to the raw surfaces of the bones and soft parts A dressing with iodoform gauze would be good—i e, applying such gauze to the interior of the wound or dusting the cut surfaces with iodoform Then I agree with you that it will be well to keep the limb without movement, with the arm in a splint and sling—i e, forearm at right angles (or rather more) to the arm, for a considerable time—to obtain as firm a state of the joint as possible

Believe me, yours very truly
Tom Bates, Esq , Worcester JOSEPH LISTER

BILLON NOVARSENOBENZOL

To the Editor of THE LANCET

SIR,—My experience of the use of Billon brand of novarsenobenzol may be of interest to those who, like myself, have many cases of yaws to treat, especially in view of the doubts expressed in THE LANCET as to the safety of Billon brand some months ago[1]

In June, 1915, the Fiji Government supplied me with 30 grammes of Billon novarsenobenzol Seventy patients were treated with this for yaws or its sequelæ, 69 being Fijians and 1 half caste The drug was given intramuscularly dissolved in sterile filtered rain water Dosage was in accordance with the views expressed in my communication to THE LANCET of August 8th, 1914 In all 97 injections were made, the dose varying from 0 1 to 0 5 gramme The patients presented such manifestations of yaws as are usually seen at Fijian hospitals, the majority being cases of tertiary ulceration and periostitis One case of dementia paralytica (in Fijians yaws plays the part of syphilis in the causation of this disease) was treated without any apparent benefit With this exception all were cured In every respect the drug appeared to act similarly to the German neosalvarsan No bad after effects have been noticed, though nearly all the patients have been seen frequently since leaving hospital

I am, Sir, yours faithfully,
PHILIP HARPER,
District Medical Officer Fiji
Jan 10th 1916

ALBUMINURIC RETINITIS

To the Editor of THE LANCET

SIR,—Dr Samuel West, in his interesting letter to THE LANCET of Feb 12th, writes —

> The degenerative form presents the glistening white patches round about the yellow spot especially, which are so characteristic of albuminuric retinitis *It is pathognomonic of granular kidney, for it occurs in no other disease* (The italics are mine)

With all respect to Dr West, I must demur t this statement, for it is quite at variance with th experience of ophthalmic surgeons Precisely th same fundus picture is sometimes found in diabetes the albuminuria of pregnancy, scarlatinal nephrit of children, and in intracranial tumours

I am, Sir, yours faithfully,
KENNETH CAMPBELL.
Wimpole-street W March 3rd 1916

THE TREATMENT OF CRIPPLED SOLDIERS

To the Editor of THE LANCET

SIR,—Major Robert Jones is advising the appointment of a Minister for dealing with the whole question of crippled soldiers I should like to join with Major Jones in advocating the immediate setting up of a Government department fo the treatment of these men As long as a year ago I drew up a memorandum embodying a scheme for the treatment of more or less permanently disabled crippled soldiers, and submitted it to the War Office The chief idea of the scheme was that a central authority to control all orthopædic cases should be set up in London under the Chelsea Commissioners, who would appoint local authorities—in every case orthopædic surgeons of repute —to deal with the cases throughout the length and breadth of the United Kingdom I pointed out that the scheme would only require to be of a temporary character, that it could be most economically worked and that a great saving of public money, which would otherwise go in permanent pensions, could be thereby effected

I have now published the scheme as an appendix to my "Notes on Military Orthopædics' Sooner or later some such scheme will have to be adopted Why not now ?—I am, Sir, yours faithfully,

Harley street W March 4th 1916 PAUL BERNARD ROTH

Obituary

CHARLES LAKIN, L R C P EDIN , L F P S GLASG , L S A

BY the death of Mr Charles Lakin, which took place on Feb 10th at the age of 67, Leicester loses one of its oldest medical practitioners Mr Lakin was educated for the medical profession at Queen's College, Birmingham, and after taking his Edinburgh qualification was for a time resident obstetrician at Queen's Hospital He commenced practice in Leicester in 1873 and quickly attained a prominent position professionally, while he took a keen interest in public affairs, and especially in public health questions For the last 30 years he had been a member of the town council and in 1892 was appointed an alderman, a position which he held at the time of his death He was vice chairman of the sanitary committee for many years, and was also chairman of the isolation hospital committee He was mayor of Leicester in 1908, an office that he filled with dignity and credit to the town Of quiet, unassuming character he spoke seldom, but rendered excellent service by bringing his medical knowledge to bear on questions relating to the welfare of the rapidly growing borough Among his multifarious duties he found time to carry on the work of the honorary medical officership of the Wycliffe Society of the Blind, a society which looks after the intere t over 200 blind persons His patients found him full of kindness and sympathy and many will mourn the loss not only of a trusted medical adviser but of a valued friend

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[1] THE LANCET May 1st 1915; see also THE LANCET June 26th 1915

NATHANIEL EDWARD ROBERTS, M B, C M EDIN, D.P H R.C.P S EDIN

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this day I had the fortune to be a dresser in Lister's wards in the Glasgow Royal Infirmary in 1864–65 —I am, Sir, yours faithfully,

T BATES, Sen ,
Honorary Consulting Surgeon Worcester General Infirmary
Worcester Feb 27th, 1916

[ENCLOSURE]

12, Park Crescent, Portland Place,
30th March, 1893

DEAR MR BATES,—I quite agree with you as to the course to pursue in this case I did not push the probing very far and did not feel any bare bone, but the chances are that there is recurrence of caries Free exposure of the affected parts and free scraping away of all tubercular tissue in the soft parts with the sharp spoon and free gouging of the bones if they prove to be diseased is certainly the thing to do You will probably do the operation bloodlessly, by applying an elastic bandage to the upper arm after raising the limb 2 or 3 minutes, and when the operation is over, before the bandage is removed, I would advise you to apply chloride of zinc solution, 40 grs to the ounce, to the raw surfaces of the bones and soft parts A dressing with iodoform gauze would be good—i e , applying such gauze to the interior of the wound or dusting the cut surfaces with iodoform Then I agree with you that it will be well to keep the limb without movement, with the arm in a splint and sling—i e , forearm at right angles (or rather more) to the arm, for a considerable time—to obtain as firm a state of the joint as possible

Believe me, yours very truly
Tom Bates, Esq Worcester JOSEPH LISTER

BILLON NOVARSENOBENZOL

To the Editor of THE LANCET

SIR,—My experience of the use of Billon brand of novarsenobenzol may be of interest to those who, like myself, have many cases of yaws to treat, especially in view of the doubts expressed in THE LANCET as to the safety of Billon brand some months ago[1]

In June, 1915, the Fiji Government supplied me with 30 grammes of Billon novarsenobenzol Seventy patients were treated with this for yaws or its sequelæ, 69 being Fijians and 1 half caste The drug was given intramuscularly dissolved in sterile filtered rain water Dosage was in accordance with the views expressed in my communication to THE LANCET of August 8th, 1914 In all 97 injections were made, the dose varying from 0 1 to 0 5 gramme The patients presented such manifestations of yaws as are usually seen at Fijian hospitals, the majority being cases of tertiary ulceration and periostitis One case of dementia paralytica (in Fijians yaws plays the part of syphilis in the causation of this disease) was treated without any apparent benefit With this exception all were cured In every respect the drug appeared to act similarly to the German neosalvarsan No bad after effects have been noticed, though nearly all the patients have been seen frequently since leaving hospital

I am, Sir, yours faithfully,
PHILIP HARPER,
District Medical Officer Fiji
Jan 10th 1916

ALBUMINURIC RETINITIS

To the Editor of THE LANCET

SIR,—Dr Samuel West, in his interesting letter to THE LANCET of Feb 12th, writes —

> The degenerative form presents the glistening white patches round about the yellow spot especially, which are so characteristic of albuminuric retinitis *It is pathognomonic of granular kidney, for it occurs in no other disease* (The italics are mine)

With all respect to Dr West, I must demur t this statement, for it is quite at variance with th experience of ophthalmic surgeons Precisely th same fundus picture is sometimes found in diabet in the albuminuria of pregnancy, scarlatinal nephrit of children, and in intracranial tumours

I am, Sir, yours faithfully,
KENNETH CAMPBELL
Wimpole-street W March 3rd 1916

THE TREATMENT OF CRIPPLED SOLDIERS

To the Editor of THE LANCET

SIR,—Major Robert Jones is advising the appoint ment of a Minister for dealing with the whol question of crippled soldiers I should like to join with Major Jones in advocating the imme diate setting up of a Government department for the treatment of these men As long as a ye ago I drew up a memorandum embodying a schem for the treatment of more or less permanently dis abled crippled soldiers, and submitted it to the Wa Office The chief idea of the scheme was tha a central authority to control all orthopædic case should be set up in London under the Chelsea Commissioners, who would appoint local authori ties—in every case orthopædic surgeons of repu —to deal with the cases throughout the length and breadth of the United Kingdom. I pointed out that the scheme would only require to be of a temporary character, that it could be mos economically worked and that a great saving of public money, which would otherwise go in perma nent pensions, could be thereby effected

I have now published the scheme as an appendix to my "Notes on Military Orthopædics' Sooner or later some such scheme will have to be adopted Why not now ?—I am, Sir, yours faithfully,

Harley street W March 4th 1916 PAUL BERNARD ROTH

Obituary

CHARLES LAKIN, L R C P EDIN , L F P S GLASG , L S A

BY the death of Mr Charles Lakin, which took place on Feb 10th at the age of 67, Leicester loses one of its oldest medical practitioners Mr Lakin was educated for the medical profession at Queen s College, Birmingham, and after taking his Edinburgh qualification was for a time resident obstetrician at Queen's Hospital He commenced practice in Leicester in 1873 and quickly attained a prominent position professionally, while he took a keen interest in public affairs, and especially in public health questions For the last 30 years he had been a member of the town council and in 1892 was appointed an alderman, a position which he held at the time of his death He was vice chairman of the sanitary committee for many years, and was also chairman of the isolation hospital committee He was mayor of Leicester in 1909, an office that he filled with dignity and credit to the town Of quiet, unassuming character he spoke seldom, but rendered excellent service by bringing his medical knowledge to bear on questions relating to the welfare of the rapidly growing borough Among his multifarious duties he found time to carry on the work of the honorary medical officership of the Wycliffe Society of the Blind, a society which looks after the interes over 200 blind persons His patients found him ull of kindness and sympathy and many will mourn the loss not only of a trusted medical dviser but of a valued friend

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paper calling him up, he should return it to the recruiting officer, together with his certificate of enrolment or W O letter The notice will then be cancelled and the practitioner will remain in reserve until selected for a commission in the Royal Army Medical Corps (*b*) If a medical practitioner who has attested under the Group System or is in one of the classes under the Military Service Act, 1916, but who has not enrolled under the scheme of the Central Medical War Committee, or the Scottish War Emergency Committee, nor been provisionally accepted by the War Office, he will be dealt with in the ordinary course

It is to be noticed that medical men will not be called up, whether by reason of attestation, or under the Military Service Act, until the last day of this month, a valuable concession, as it gives men time to consider the situation, which has for long been clearly impending, but which, for this reason or that, was not recognised in its seriousness by many people This position has been very fully discussed at a meeting of the Central Medical War Committee It was then resolved that the Executive Subcommittee should be instructed to consider at once in what way the enrolment scheme can be pushed to the maximum success, and to take steps to ensure that result At the meeting of the subcommittee, which took place on March 3rd, action was taken in accordance with the reference to them It was resolved —

1 That the subcommittee proceeds to deal with the whole number of practitioners under 45 at once, giving special attention to the importance of securing the enrolment before March 31st, 1916, of single men under 41

2 That a communication be sent out at once to all unenrolled practitioners

3 That steps be taken for an immediate canvass of all practitioners under 45, and a publicity campaign to be conducted simultaneously

It was further resolved that the campaign for securing enrolment should be conducted on the lines of a Parliamentary campaign, by a strenuous canvass, having a time limit of March 31st next, and in accordance with this resolution two special Canvassing Committees were appointed, one for London and one for the provinces The personnel of these committees was agreed upon by resolution as follows —

That the Canvassing Committee for London consist of the London members of the Executive, with power to co-opt such other members as they think fit

That the Canvassing Committee for the Provinces consist of the following members of the Central Medical War Committee Lieutenant-Colonel Sir James Barr, Lieutenant-Colonel R A Bolam, Major Russell Coombe, Major W J Greer, Major Albert Lucas, and Dr T Jenner Verrall, together with the following representative practitioners from the provinces Dr Dearden (Manchester) Dr Devis (Bristol), Dr Don (Newcastle on Tyne), Dr Adam Fulton (Nottingham), Dr E A Starling (Tunbridge Wells), Dr H J Starling (Norwich), and Dr Wherry Willson (Bradford)

At this meeting it was reported by the secretaries that 1501 commissions had been posted up to Feb 26th, being an increase of 37 since the last meeting of the subcommittee, and an average of 48 4 per week since July 17th, 1915, when the work commenced, while 383 applications for commissions were waiting to be posted Up to March 3rd, 1916, 1642 certificates of enrolment had been issued, an increase of 435 since the last meeting

To be enrolled by no means suggests that a man is bound to be called up Many, probably the majority, of the enrolled will never be called up at all, though we have authority which can hardly be gainsaid for saying—or rather for repeating—that the medical profession ought as a profession to be prepared for any emergency that may arise The circular which follows deals with the difficulties commonly felt by medical practitioners on the score of enrolment

THE ENROLMENT SCHEME ANSWERS TO COMMON OBJECTIONS

The following circular has been issued by the Central Medical War Committee to canvassers —

1 No one can say how long the war may last and therefore how many doctors may be required in the future, but it is the duty of the profession to be prepared for any calls that may be made upon it

2 The only fair way to secure this—fair to the profession as well as to the public—is to get every man of military age to signify his willingness to accept military service if and when it is thought that his services should be offered In return for this undertaking the Central Medical War Committee, in consultation with the local Medical War Committees, promises that its calls shall be made with due regard to professional and personal difficulties, which the enrolled man will have full opportunity of placing before the Committee Inconvenience in most cases and hardship in many cases are inevitable, but these can be alleviated if proper arrangements are made before a man is asked to undertake military service

3 Such arrangements can only be made equitably if the field of selection is as wide as possible There are, roughly speaking, about 6000 medical men under 45 in England and Wales If 2000 of these should during the course of the war be required it would obviously be more fair to all concerned if the selection were made from the whole 6000 rather than from three or four thousand It is extremely unlikely that every man who enrols will be required Moreover, some would not be accepted by the War Office on physical grounds, others practise in areas from which they could not possibly be spared, others hold public appointments from which it would be difficult to release them without danger to the health of the community Others have financial liabilities which would entail their ruin if they were called up But every man who enrols helps to make it easier for others to do the same and more difficult for them to decline, and thus renders it possible to select the doctors who are wanted and can go with the minimum of hardship

4 The credit of the whole profession is at stake in making this Enrolment Scheme a success Up to now the profession has been left to organise itself to meet the calls of the country and everyone acknowledges that it has done it splendidly The Central Medical War Committee believes that by energetically carrying out the present system of enrolment the profession will be able, so far as the supply of medical men is concerned, to see the war through without compulsion or official interference

5 The following are the stock objections against enrolling, which you may have to meet with brief answers —

Objection (*a*) I am physically unfit

Answer That is no reason why you should not have your certificate of enrolment which will be a proof that you are willing to go if the War Office needed and would take you If you are called upon to join it will rest with the military authorities to accept or decline you Further, the certificate of enrolment will enable you to be used in local military service if such service be required Men holding the certificate may be employed in part-time military work, irrespective of their age whereas other men will not be employed on such work unless they are over 45

Objection (*b*) I have financial liabilities which make it almost impossible for me to go

Answer So have probably two-thirds of the men who will enrol So have thousands of the men under the Derby scheme—yet they attested You are assured of all your circumstances being considered at the time when your name comes up as a possible applicant for the R A M C , and every endeavour will be made to leave till a later time or refrain altogether from calling up those who would obviously suffer greatly by going But if you decline to take your chance you may be sure that some other man, with probably greater financial difficulties but a keener sense of duty, will have to go in your stead The Local Medical War Committee of your area will endeavour to make arrangements to meet your difficulties as far as they can be met by a professional body It is suggested that one of the best ways would be for practitioners with overlapping practices to enter into a temporary partnership for the duration of the war and a period after thus pooling finances and sharing loss if any The Local Medical War Committee would be glad to discuss this matter or any alternative plan for protecting your interests if called up with you and any of your neighbours who may think of entering into such an arrangement

Objection (*c*) I have a partner, or an assistant who is on military service, or I am doing work for a neighbour on active service

Answer Enrol all the same Your position is bound to appeal to the Central and Local Medical War Committees when they decide who are the men who should be asked to go

Objection (*d*) I cannot be spared If I went away my work could not be done

Answer That is a question that should be settled by other people. You are not an unbiassed judge But it is a necessary part of the scheme that when a man is asked to go arrangements must be made for carrying on his work If your neighbours cannot do it and if a substitute cannot be found, you will not be called up But you should certainly enrol along with the rest

Objection (e) I hold a public appointment from which the authority employing me considers I cannot be spared

Answer The Central Medical War Committee is in close touch with the Government departments concerned in medical practice, and you will not be called up without the consent of the Government department and of any local authority which are concerned in the work on which you are engaged

Objection (f) I am on a hospital staff

Answer The Central Medical War Committee is as anxious as you can be to prevent hospital staffs from being unduly depleted The Committee has already circularised the staffs of all the voluntary hospitals in England and Wales asking them to consider what are their minimum requirements in the way of staff. On this question the Central Committee expects to receive valuable assistance from the Local Medical War Committees in the provinces For the consideration of the whole question as it affects London it is proposed to set up a Special Advisory Committee and the opinions of this Committee will no doubt enable the calls on the members of staffs of hospitals in London to be made with as little dislocation of the work of those hospitals as is possible in the circumstances The individual member of a staff should enrol on the distinct understanding that the circumstances of his hospital will be duly considered before he is asked to undertake military service

Objection (g) I am already doing some form of military work—e g attending at V A.D , Red Cross or some local military hospital

Answer The military medical work of primary importance is securing the fitness of the fighting men This can only be done by medical men with the armies and by such work alone can the war be won Home hospital work can be done by the older men Further if the time comes when you are asked to take military service and you have any doubt as to whether you will be doing better military work by staying at home or by going into the army put the question to the Director General of the Army Medical Service

Objection (h) I have already served for 12 months

Answer That is no reason why you should not enrol That circumstance will be taken into account when your case is considered and would be a good reason for expecting other men to go before you are asked to serve again You have previously set a good example by undertaking military service Set another one to your neighbour by enrolling

Objection (i) I do not think I should be asked to join the R.A M C because I am not convinced that the most economical use is being made of men who are already in the service

Answer Probably most of the men who have joined the service would agree with you, but that did not prevent them from joining and it does not prevent most of them continuing in the service even after they might retire War cannot be conducted without waste Men must be ready in reserve for any contingency They may seem idle and wasted but they are doing their duty by being there for service when required If every man refused to join the army until it was being run in a way which satisfied his ideas as to the economical use of men and material there would be no army at all

Objection (j) I have special experience or qualifications and I don t care to join unless I shall be sure they will be used

Answer It is impossible to give a guarantee that every man will be used only in the special line to which he has been accustomed A large number of the men with special qualifications are used in their special work but every doctor must be prepared to do doctor s work of any kind and men of the highest qualifications and long experience have not been ashamed or unwilling to turn their hand to routine work when special work was not available

Objection (k) I am not content to join as a lieutenant My position or experience should be recognised by higher rank

Answer You are only asked to join as a temporary officer and the distinctions of rank matter much less in your case than they would if you were joining the R A M C as a life career Some thousands of men have now joined as lieutenants and it would be impossible to ask the authorities to give preferential treatment to men who are now joining You will find lots of men as well qualified and with as much experience as yourself serving as lieutenants and proud to do so

Objection (l) The pay is not sufficient

Answer It cannot be denied that most men in practice who take military service will be making a monetary sacrifice and you must be prepared to do the same in common with very large numbers of your fellow-countr men. But the pay is good compared with that offered people who join the army as combatant officers The pa amounts to £500 per annum—namely, 24s a day and gratuity of £60 at the end of the year There is addition either rations or a daily allowance in lieu of rations and £30 for uniform Your Local Medical War Committee will do all that a professional body can to protect your interests while you are away if you are selected to go It must not be forgotten that the contract is for one year only, and you can renew it or not at the end of that time as you think fit This does not apply to any other form of service in the army

Objection (m) I am afraid that if I enrol I may be called up arbitrarily by the Committee without due consideration of my personal and professional circumstances

Answer The C M W C is a purely voluntary one composed of representatives of practically every section of medical men It was set up in the first instance by the Representative Body of the B M A., but original members were put upon it who were not members of the Association, and power was given to it to co-opt others The result is that it now consists of representatives of practically every medical interest Representatives of the three Government Departments concerned with the provision of medical attendance attend its meetings regularly It is in close and constant coöperation with Local Medical War Committees all over the country It is fully recognised by the Director-General as his medium for communicating to the profession the medical needs of the Army The Committee, therefore, is in a better position than any other body could be to consider the requirements of the War Office and the Government Departments and those of the civilian population In any case you must remember that no other body of the kind has attempted to do this duty and the Committee feels it has established a right to ask the members of the profession to support it in the great task it has undertaken

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ELIGIBILITY OF ENROLLED MEDICAL PRACTITIONERS FOR ARMY DUTY IRRESPECTIVE OF AGE

The Army Council has issued the following instruction dated March 2nd, 1916 —

475 *Eligibility of Medical Practitioners for Army Duty, Irre spective of Age when Enrolled with Certain Committees*

With reference to W O letter X,Misc. 246 (A M D 1) of 27th August 1915 medical practitioners who have enrolled with the Central Medical War Committee or the Scottish Medical Service Emergency Committee for service with the Army, and are in possession of a certificate of enrolment with either Committee may be considered eligible for Army duty irrespective of their age

24 Gen No 4749 (A M D 1)

Copies of this instruction have been issued to G Os C in C , and G O C London District

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NEW FRENCH DENTAL SERVICES — Mr F Newland Pedley sends us a cutting from *Le Temps* elaborat ing the notice of the foundation of a dental service in the French army touched upon by our Paris correspondent last week 1000 qualified dentists will be gazetted adjutants—500 at the front and 500 in the depots—and associated as far as possible with the army doctors and pharmacists There will be provided with each group of stretcher bearers a mobile dental staff who can attend to the men's teeth in their cantonments Dental clinics are to be attached to each hospital centre and a sufficiency of mechanical institutes provided up and down the country The American Hospital in Paris at the Lycée Pasteur has been a pioneer in this work, the fruits of which are now becoming evident A further recent decree authorises the Ministry of Marine to recruit a staff of dental surgeons to be attached to the Naval Medical Service during the war

R A M C (T) JOURNALS —Among the journals intended to amuse the personnel and patients of ambulances and hospitals and to attract outside subscriptions for the particular institutions we welcome the latest newcomer the *Review* of the 2/1st South Wales Mounted Brigade It is funny even to the wrappers which contain burlesque advertisements The cost of this review is 2*d* and we congratulate the editor Lieutenant Colonel Herbert Jones S M O Bulcamp Blythborough Suffolk on its production We have also received the March issue of the *Gazette* of the 3rd London General Hospital Wandsworth which in addition to its interesting letterpress maintains its prestige for humorous black and white drawings Among the excellently reproduced photographs is one of a bronze bust of Lieutenant Colonel Bruce Porter, R A M C (T) the Commanding Officer, by Sergeant Derwent Wood, a well known sculptor and a member of the 3rd London General Hospital Staff

WAR HOSPITALS —The Marquis of Huntly has placed Aboyne Castle at the disposal of the authorities for use as a hospital for wounded soldiers, with an accommodation of 100 beds The Peak Hydro Hotel is being converted into a hospital to accommodate more than 300 wounded Canadian soldiers Facilities have been granted by the town council for the use of the Buxton waters

MR James Berry, Mrs F M Dickinson Berry, M D , and the whole staff of the Royal Free Hospital Serbian unit have reached England in safety Dr J B Christopherson, of Khartoum, accompanied them Mr Berry, as our readers will remember, was last seen by a chance traveller nailing on the roof of a new slaughter house at Vrnjatchka Banja as the Austrians were approaching The party returned by Vienna and the Vorarlberg, spending the usual ten days detention at the frontier town of Bludenz They had nothing to complain of at the hands of the Austrians

AFTER being prisoners of war since November, Mr W H G Aspland, who was in charge of the hospital in Serbia maintained by the Wounded Allies Relief Committee, accompanied by Mrs Aspland, Dr Slater, and three nurses, arrived in London last week.

THE Scottish Red Cross has just completed at Glasgow its first hospital ship, *St Margaret of Scotland*, for the Mediterranean service

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND

THE WEEK'S SUBSCRIPTIONS

THE subscriptions to the Belgian Doctors' and Pharmacists' Relief Fund received during the week have been as follows —

	£	s	d
New Hebrides Missionaries—			
Dr E Mackenzie	2	0	0
Rev F G Bowie	1	0	0
Per Dr H L. McKisack—			
Dr Haydn Mulholland	1	1	0
Dr R M Fraser	2	2	0
Dr G D H Carpenter (eleventh donation, total £11)	1	0	0
B M A. Western Australia (per Dr J E Ramsay acting honorary treasurer)	6	6	0
B M A. New South Wales (per Dr Crago honorary treasurer) (total £792 3s) Queensland Branch	32	3	0

Subscriptions to the Fund should be sent to the treasurer of the Fund, Dr H A Des Vœux, at 14, Buckingham gate, London, S W , and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited

ROYAL SUSSEX COUNTY HOSPITAL, BRIGHTON —This hospital early placed its resources at the service of the country, and during last year 642 military cases were admitted. At the annual court of governors on Feb 24th it was declared that the effect of the treatment of wounded soldiers in a great general hospital on the civil patients had been fortunate, while the chairman of the board of management (Mr R Ball Dodson) emphasised the fact that had it not been for the board's contract with the Government it would have been impossible to have retained a sufficient staff to run the hospital at its full capacity for civilians alone Respecting civil patients, it was shown that whereas the cost per bed occupied had been greatly reduced the cost per patient had been markedly increased. This was explained by the great increase in the average length of stay of each in patient which had grown from 24 days in 1914 to 30 days in 1915 This six days' extra stay for each of between 2000 and 3000 patients had had a great effect on the waiting list a matter which will receive the consideration of the board at an early date The financial side of the annual report was considered satisfactory

Medical News.

PETROL FOR DOCTORS —The Medico-Political Committee of the British Medical Association have for some time been giving anxious consideration to the difficulties experienced, and likely to be increasingly experienced by doctors in obtaining petrol for their cars or motor bicycles Several representations have been made to the Board of Trade on the subject A special meeting of the Committee was summoned for Wednesday, March 8th, to confer with representatives of certain Government Departments concerned with the larger question of the supply of petrol for Government requirements generally and for the civil community The Conference, which was necessarily confidential, dealt at length with several matters of great importance The Government representatives indicated the necessity of reliable information being rapidly forthcoming as to the quantity of petrol actually needed month by month by the medical profession in the different parts of the country if any effective action were to be possible to the Government for arranging as was desired that doctors should be secured their minimum requirements for fulfilling their duties to the civil community Certain immediate steps were decided on with a view to obtaining that information forthwith It was stated that the Government Departments entrusted with the question were anxious that the needs of the medical profession should receive special attention in any scheme which might be evolved for the distribution of petrol under any new conditions that might be set up The Committee whilst realising from the discussion the great practical difficulties that will have to be solved by any Government scheme for the community of the kind that seems to be contemplated, feel assured that the special case of the medical profession is being fully recognised in the responsible quarters, and the Committee will not cease to keep in close touch with any further developments

The steps above mentioned will probably include the issue of certain inquiries to medical practitioners throughout the country, and it is hoped that, in the interests of each individual and of the profession as a whole, these questions when received, will be answered fully and without any delay

OPEN-AIR WARD FOR SICK CHILDREN'S HOSPITAL, ABERDEEN —The Aberdeen Sick Children's Hospital, at present occupying temporary premises at Kepplestone House has been supplied with a new open air building erected in the grounds, and it is hoped to move this ward to the new hospital when it is ready for occupation The ward consists of a single-storey building of wood, 88 feet long, 20 feet deep, and 8 feet high from the floor to the eaves It is divided into three compartments, an open ward at both ends that in the middle being closed The front to the sun is open except for the shutters, which are raised from the floor at will, but can only be raised half way to the roof, so that the front can never be entirely closed The back of the open wards is walled, with windows all opening and here also ventilators which cannot be closed are placed under the eaves The closed centre apartment is heated, and will be used for washing and dressing patients, for the convenience of the nurses, and service of meals from the kitchens in the main buildings, &c The total cost of the ward is £650, and it is somewhat in the nature of an experiment with a view to the construction of the new Sick Children's Hospital which might be developed upon the same lines, the whole hospital being made an out door one save for closed wards for medical cases requiring such In this way much expense might be spared, and probably increased efficiency obtained

PROPOSED DENTAL SCHOOL AT THE ROYAL COLLEGE OF SURGEONS IN IRELAND —For several years past dental education in Ireland has centred round the Dental Hospital of Ireland With the exception of a year's clinical work at a general hospital and courses in anatomy and physiology at a medical school, students went through their entire course, mechanical clinical operative and theoretical, at the Dental Hospital but obtained their qualifications from the Royal College of Surgeons or one of the universities Within the past few years both Trinity College and University College have established schools of dentistry but they concerned themselves only with the theoretical teaching, and they coöperated with the Dental Hospital in the courses of study The Council of the Royal College of Surgeons is now considering the advisability of establishing a school of dentistry which would give all the instruction, clinical as well as mechanical required in the curriculum It would of necessity, mean the establishment of a dental hospital or clinic under the control of the College, a project fraught with many difficulties. Special considerations in the College also present difficulties, and the proposal is made to use the museum hall for the purposes of the dental school The museum is one of more than merely historic interest, and it is to be hoped that, if it is to be moved, due care will be taken not only that the exhibits are properly preserved but that they remain kept accessible to those who wish to study them

THE DANISH CHILD AT SCHOOL.—At a meeting of the Childhood Society held on March 2nd, Mr A E Hayes, travelling scholar in Denmark, 1903-04, delivered a lecture on the Danish child at school He said that in German experience postponement of school entry to seven years of age had proved beneficial to the child's physical condition Much attention was devoted in Denmark to the subject of physical culture, but many scholars confessed to a feeling of weariness during the lessons which followed the exercises, due, no doubt to their having been taken in excess During the discussion reference was made to the fine designs of the new Copenhagen schools, especially in the matter of lavatories and facilities for nature study With regard to school hygiene, a nurse made daily visits to a school until she was satisfied that every child was of the required degree of cleanliness A good deal of the attention of the nurse was devoted to the heads of the children and as the necessary measures were taken on the spot there was not the amount of resistance to the treatment there which was encountered in Britain. The duty of the medical officer was to treat minor ailments rather than to inspect. Denmark was practically free of poverty stricken slums, and the institution of the daily bath following the gymnasium exercise exerted a good influence in the direction of the wearing of clean clothing In that way hygienic teaching was taken to the homes, and was proving very beneficial

THE LATE MR. C E COLLINS —Charles Edward Collins M R.C.S Eng, L R C P Lond, had practised for over 30 years at East Grinstead and his death, which occurred on March 2nd after a few hours illness came as a real shock in the district, where he took a prominent part in local affairs Mr Collins was born in India in 1850 studied at University College Hospital London (where he was subsequently house surgeon) and became M R.C S Eng in 1874 For 18 years he was surgeon to the local Volunteer Corps retiring in 1894 with the rank of surgeon major, and at the time of his death was the senior medical officer of the East Grinstead Queen Victoria Cottage Hospital

AN INTERESTING PRESENTATION —The former Bishop of Bristol (Dr Forrest Browne) has presented to the Bristol Museum and Art Gallery an original licence (upon parchment) granted by the Bishop's Vicar General to Henry Jones to practise surgery in Bristol It is dated 1672

Mr D D Main F R C P, F R C S Edin, has received permission from the King to accept and wear the decoration of the Fourth Class of the Order of the Excellent Crop which has been conferred upon him by the President of the Republic of China.

BOOKS ETC RECEIVED

APPLETON D., AND COMPANY London and New York
  Appleton's Medical Dictionary Edited by Smith Ely Jelliffe A M M D., Ph D assisted by Caroline Wormeley Latimer M D A M Price 15s net
ARNOLD EDWARD London
  Physiology for Nurses By W B Drummond M B C M F R.C P Edin Price 2s 6d net
BAILLIÈRE TINDALL AND COX London
  Surgical Nursing and Technique By C P Childe B A F R C S Eng Second edition Price 3s 6d net
CASSELL AND Co London New York Toronto and Melbourne
  Diseases of the Nose and Throat Second edition A Text-book for Students and Practitioners By Sir StClair Thomson M D F R C P Lond F R C S Eng Price 25s net

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

The Care of Disabled Soldiers

A SPECIAL subcommittee of the Statutory Committee under the Naval and Military War Pensions Act, to deal with the provision for the care of disabled officers and men, has been appointed

Pensions to Discharged Sailors

The Admiralty is in consultation with the Treasury as to the desirability of extending the Order in Council as to disablement pensions in the Navy so that it may apply to cases where disease has been "aggravated by the service," as well as to the cases where disease has been "contracted in the service" During the debate on Navy Estimates Mr MACNAMARA, the Secretary to the Admiralty, emphasised the sympathy with which the medical staff approached such questions

HOUSE OF COMMONS

WEDNESDAY, MARCH 1ST

Stocks of Opium

Replying to Mr S SAMUEL, Mr BRIDGEMAN (representing the War Trade Department) said Opium is of special importance for the treatment of the wounded, and in view of the great demand for this drug and of the special conditions affecting the usual sources of supply at the present time it is not considered that the present and prospective stocks are in excess of what may reasonably be regarded as necessary for the requirements of the country There is no foundation for the suggestion that there has been any restriction of exports in the interests of the manufacturers of morphia, nor is it considered that the policy of the War Trade Department in safeguarding home supplies will have the effect of diverting the trade to other countries

Tuberculosis in the Army

Mr ANDERSON asked the Under Secretary for War how many of the 2770 soldiers invalided out of the service in 1915 on account of tuberculosis were found under the terms of the Royal Warrant to be entitled to a pension, and how many were not so entitled —Mr TENNANT answered 1641 were awarded pensions and 1129 claims were not accepted

THURSDAY, MARCH 2ND

Medical Rejections in Glasgow

Mr WATT asked the Under Secretary for War whether he had yet had any information as to the destruction at several of the recruiting stations in Glasgow by the recruiting sergeants and by the medical examiners of the evidence of medical unfitness since August 14th of men calling at these stations for purposes other than enlistment, if so, what action he proposed to take, and were these recruiting sergeants and medical men to continue as agents of his department —Mr TENNANT answered Where a man has not been attested the certificate of rejection will be returned to him Instructions have been issued that the rejection certificate of a man who subsequently attested and was placed in category "B" which consists of men previously rejected on account of eyesight or some slight physical defect is not to be destroyed but should be preserved by the recruiting officer and filed with the man's documents

Medical Students and War Service

Mr PRINGLE asked the Under Secretary for War whether it was the intention of the Government to allow fourth and fifth year medical students to complete their curriculum and thus qualify for commissions in the Royal Army Medical Corps —Mr TENNANT replied Medical students in their fourth and fifth years of study and those in their third year of study whose examination takes place during the winter session must either attest under the group system or become liable to the Military Service Act The fourth and fifth year students will not be called up and if the third year students pass their examination they also will not be called up but if they fail they will be called up Students who have not attested under the group system, and who in consequence become liable to the Military Service Act, must appeal to the local tribunal if they desire exemption

Soldiers' Wives and Institutional Treatment

Captain CASSEL asked the Financial Secretary to the War Office (1) whether he was aware that in many districts soldiers' wives requiring treatment were compelled to go to an infirmary or a sanatorium by reason of hospital accommodation not being available and thereby lost their separation allowances and were treated as paupers and (2) whether he would consider the advisability of allowing soldiers' wives entering an infirmary or sanatorium to retain their separation allowances a reasonable amount out of such allowances being paid to the guardians or other authority —Mr FORSTER wrote in reply When a soldier's wife leaves her home under the conditions named, the allowances payable to the children are raised to the motherless rate, but if the institution is supported out of the rates no payment in relief of rates is made unless the soldier was himself making one In that case it is continued within the amount available If the institution is not supported out of the rates there is no bar to payment The soldier's allotment is paid to the wife while in a rate supported institution for her personal use These arrangements appear to me to meet the situation adequately

Cocaine Smuggling in India

Sir J D REES asked the Secretary for India whether evidence existed to the effect that cocaine was smuggled to India in Austrian steamers before the outbreak of war, and whether cocaine dens had, since the suppression of opium, been established in most of the big Indian cities —Mr CHAMBERLAIN (in a written answer) replied Cocaine has in the past been smuggled into India by Austrian and German and other steamship lines The habit in a more or less furtive form exists in Indian seaport towns and in a less degree in the largest inland cities, but so far as my information goes it is unconnected with the opium habit or with measures taken to suppress the latter

The National Insurance Act in Scotland

During the discussion on the Vote of Account, Mr CURRIE called attention to the administration of the National Insurance Act in Scotland and to the position of societies there He urged the exercise of economy in administration In Scotland the Insurance Committees might well be abolished and the administration of the tuberculosis benefit handed over to the public health authorities

Mr C ROBERTS (representing the National Insurance Commissioners) said that as compared with the estimates of the previous year there was a reduction of £101,250 on the Scottish Insurance Commission On the four National Insurance Commissions and the Joint Committee the saving was £875,000 Therefore the estimates this year did show a very considerable reduction It was not a reduction due to some changes of method or to some alterations in the basis of provision, but there were real reductions in the cost of administration, in restriction of services, and in carrying on the existing services at a cheaper cost He asked honourable Members to moderate their apprehensions as to what they called the partial insolvency of the Act The Act was not insolvent It was at the present time piling up large reserves of money, and if any particular society did get into difficulties there were means, by levies and so on, by which it could be prevented from becoming bankrupt He regretted talk about the bankruptcy of the Act because it did give rise to misapprehensions by people who could not appreciate the real financial position The Commissioners had before them the report of the Committee on Retrenchment which suggested certain lines of economy, and a committee was sitting at the present time with a view to discover what means could be taken to reduce the cost of the Act and to simplify administration

TUESDAY, MARCH 7TH

The Tuberculosis Order, 1914

Mr HOGGE asked the Secretary for Scotland whether the Board of Agriculture was not bringing the Tuberculosis Order of 1914 into operation during the continuance of the war, whether he had received resolutions from any Scottish boroughs thereanent, what steps he proposed to take to protect the public, and whether, if the Order was not enforced, he proposed to enforce any modified form of Order —Mr ACLAND (Secretary to the Board of Agriculture) answered Yes The Board has decided to maintain the suspension of the Order until after the war The only report which the Board had received against this decision was from the Edinburgh city council, which suggested that a modified form of Order for the protection of public health might be brought in The Order, however, does not lend itself to modification on the lines suggested by the city council

Medical Standard of Recruits

Mr WATT asked the Under Secretary for War whether his department was issuing instructions to the medical examiners under the Military Service Act, 1916, to retain the same standard in passing men into the army, in view of the fact that these agents of the War Office were now passing men who formerly would have been considered quite unfit for soldiers —Mr TENNANT replied Exactly the same standard is observed in respect of all classes of men coming before army medical authorities for examination whether they report themselves for service under the Military Service Act or come forward voluntarily Recruits are now, however, and have been for some time past, graded in different categories according to their suitability

In reply to Mr ANDERSON, Mr TENNANT stated that no man was accepted for the army unless he was considered medically fit to serve in some capacity

Cerebro spinal Meningitis in Portsmouth Command

Mr NEVILLE asked the Under Secretary for War how many cases of cerebro spinal meningitis there had been among soldiers quartered in the district of the Portsmouth Command, and what proportion of the same had proved fatal, and whether any and what steps had been taken to guard against any spread of the disease —Mr TENNANT said in reply The figure for the Portsmouth district medical administrative area which includes the Portsmouth garrison, Isle of Wight, Winchester area, Dorsetshire area, and Portland defence, including Weymouth, is 31 The number of deaths has been 8 Special measures are carried out under an organisation set up 15 months ago to guard against the spread of the disease These consist of isolation of the patient, disinfection of the patient's clothing, &c, segregation and special medical treatment of contacts and carriers

Rations Allowance to Dental Officers

Sir C KINLOCH COOKE asked the Financial Secretary to the War Office whether he was aware that medical officers on home service received an allowance for rations, but the same privilege was refused to dental officers, and could he see his way to place dental officers on the same footing as medical officers in this respect and if not, would he explain why any discrimination was made —Mr FORSTER answered Dental officers at home are not entitled under the terms of their agreement for service to ration allowance, but I will further consider the discrepancy to which my honourable friend draws attention

Medical Officers at Aviation Schools

Mr MACNAMARA (Secretary to the Admiralty), in reply to Mr LEWIS HASLAM, said In all schools of aviation where trial flights take place there is a naval medical officer, except at Redcar At this latter place the Admiralty surgeon and agent at Redcar was responsible for the care of the flying station In consequence, however, of representations from Redcar as to the need of a full time medical officer at that establishment an active service medical officer has been nominated

Appointments.

Successful applicants for vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward to THE LANCET *Office directed to the Sub-Editor not later than 9 o clock on the Thursday morning of each week such information for gratuitous publication*

WHITE, S B M.B Ch B Oxon has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Lyndhurst District of the county of Hants

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

BELGRAVE HOSPITAL FOR CHILDREN Clapham road S W —Resident Medical Officer for six months Salary at rate of £100 per annum with board residence and washing

BRISTOL GENERAL HOSPITAL.—Casualty House Surgeon for six months or three months Salary at rate of £175 per annum with board residence &c.

BRISTOL ROYAL INFIRMARY —House Physicians and House Surgeons Salary at rate of £120 per annum with board apartments and laundry

BURNLEY VICTORIA HOSPITAL.—House Surgeon Salary £160 per annum with residence board and washing

BURY INFIRMARY —Junior House Surgeon. Salary £150 per annum with board residence and washing

CAMBRIDGESHIRE ASYLUM Fulbourn near Cambridge —Junior Assistant Medical Officer unmarried Salary £200 per annum with board lodging washing and attendance

CARDIFF KING EDWARD VII s HOSPITAL.—Two House Surgeons for six months Salary at rate of £140 per annum each with board residence and laundry

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST Victoria Park E —Gentleman to supply place of Members of Out patient Staff of Physicians. Salary 1 guinea per attendance

DOWNS SANATORIUM —Assistant Medical Officer unmarried Salary £250 per annum, with usual residential allowances

DUDLEY GUEST HOSPITAL.—Senior Resident Medical Officer Salary £150 per annum, with residence board and washing Also Assistant House Surgeon for six months Salary £120 per annum with residence board and washing

GUILDFORD ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £150 per annum with board residence and laundry

HUDDERSFIELD ROYAL INFIRMARY —Junior House Surgeon Salary £100 per annum with board residence and laundry

LEEDS PUBLIC DISPENSARY —Female Resident Medical Officer Salary £130 per annum with board residence and laundry

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—One House Physician and two House Surgeons for six months Salary at rate of £150 per annum, with board &c

METROPOLITAN ASYLUMS BOARD —Temporary Dental Surgeon. Salary £350 per annum, with travelling expenses and luncheon daily when on duty

NORFOLK HEMPTON FAKENHAM 2/1ST SOUTH MIDLAND MOUNTED BRIGADE.—Three Medical Officers

NOTTINGHAM CITY ASYLUM —Senior Assistant Medical Officer unmarried Salary £300 per annum with apartments board and laundry

PUTNEY HOSPITAL, Putney Common S W —Resident Medical Officer Salary £150 per annum with rooms board and laundry

QUEEN'S HOSPITAL FOR CHILDREN Hackney road Bethnal Green E.—House Surgeons for six months. Salary £100 per annum with board, residence, and washing

ROCHESTER KENT ST BARTHOLOMEW'S HOSPITAL.—Senior Resident House Surgeon. Salary as arranged

SALISBURY GENERAL INFIRMARY —Assistant House Surgeon Salary £100 per annum with apartments board lodging and washing

SHEFFIELD ROYAL INFIRMARY —House Surgeon. Salary £100 per annum with board and residence Also Two Anæsthetists Salary as arranged

UNIVERSITY OF LONDON —External Examiners

VICTORIA HOSPITAL FOR CHILDREN Tite-street Chelsea, S W —House Surgeon. Salary by arrangement, with board and lodging

WIGAN ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY —Junior House Surgeon Salary £150 per annum with board apartments and washing

WOMEN'S HOSPITAL FOR CHILDREN 688, Harrow road W —Anæsthetist. Salary £10 L.C C fees £75.

THE Chief Inspector of Factories Home Office London S W gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Brighouse in the county of Yorks and at Bishop's Stortford in the county of Herts

Births, Marriages, and Deaths.

BIRTHS

FOULKES —On March 6th at Croydon road Beckenham the wife of Peter Foulkes M B of a son

MATHEWSON —On March 3rd, at Clun Shropshire to Dr and Mrs J W Mathewson a son

PANCKRIDGE.—On March 2nd at Petersfield Hants the wife of W P Panckridge, M.B Lond M R C S L.R C P of a son

SHENNAN —On Feb 27th at Aberdeen the wife of Professor Theodore Shennan of a son

MARRIAGES

HOOD—WOOD —On March 3rd at St. John's Church Highbridge, Captain J H Hood R A M C to Dorothy Maud third daughter of Mr James Wood of Highbridge Somerset

PEDLER—JOHNSON —On March 4th at St. Joseph's, Highgate Hill Captain Hubert C G Pedler R.A.M C (S R) of 8 Montpelier square to Mary daughter of Magnus H C Johnson Esq of Langdon Park road, Highgate

PHILLIPS—GANBRILL.—On March 3rd at the Parish Church Edgbaston Birmingham Captain Alfred Percy Phillips R.A.M C to Norah third daughter of N S Ganbrill of Brockley S E

SMERDON—WHITE.—On March 7th at the Church of St Mary Magdalene Enfield Edgar Wilmot Smerdon M D F R C S Lieutenant R.A.M C (T) to Hilda Mercédes daughter of the late Mr John White and Mrs White, of Valencia, Spain and London N

TOLLER—COURT —On March 1st at St Peter's Church Malvern Wells, Charles W E Toller M D of Ilfracombe to Ella Millward elder daughter of the late Philip Wathen Court

TWINING—BOSWELL. On Tuesday Feb 29th at Eaton Parish Church Norwich by Bishop Hamlyn Edward Wing Twining M R C S L.R C P second son of the late Dr A H Twining of Salcombe Devon to Mildred eldest daughter of S H Boswell Esq Eaton Norwich

WILLIAMS—WADSWORTH —On March 1st at St. Luke's Church Dr Neville Williams of Harrogate to Louise widow of J E. Wadsworth of Hill Crest Harrogate

DEATHS

BLASSON —On March 2nd from pneumonia, Thomas Blasson M R C S L.S.A. of Billingboro aged 81 years

COLLINS —On March 2nd at Beltstele East Grinstead suddenly Charles Edward Collin M R C S L.R C P Lond

MAXWELL.—On March 6th after an operation Richard Drummond Maxwell M D F R C S (Dick) of 7 Devonshire-street W Junior Obstetric Surgeon to the London Hospital the dearly loved son of the late Richard and Margaret Maxwell of 102, Oakwood-gardens W Cremation at Golders Green Crematorium on Thursday March 9th at 2.15 Will friends kindly accept this intimation

M[illegible] —On March [illegible] at Bath[illegible] while on sick leave Brevet Colonel [illegible] I M S [illegible]

S[illegible] —On Feb 22nd in India from accidental gun shot wound W Howard [illegible] Captain R A M C aged [illegible] years

[illegible] —On March [illegible] George Mayris [illegible] M B Lond M R C S [illegible] of Wint[illegible] Canterbury aged [illegible] years

THOMSON —On March [illegible] suddenly at Oxted Theodore Thomson C M G M A M D late Assistant Medical Officer Local Government Board aged [illegible] years

N B —A fee [illegible] for the insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents

SIR GILBERT BLANE

Sir Gilbert Blane, whose name is commemorated in the gold medals annually competed for by naval surgeons, was one of the two pioneers who brought about many beneficent hygienic reforms in the British navy, the other being James Lind, his senior The splendid health which the navy now enjoys is an important factor in the wonderful achievements of our first line of defence in the greatest war of history, and it is to the work of Lind and Blane that we owe the present efficiency of our naval service Temporary Surgeon General H D Rolleston, C.B , R N , therefore is to be congratulated on having reprinted in pamphlet form the excellent résumé of the life and work of Sir Gilbert Blane which he recently contributed to the *Journal of the Royal Naval Medical Service* Gilbert Blane was born on August 29th (O S), 1749, and was the fourth son of Gilbert Blane of Blanefield, county Ayr He was originally intended for the Church, but subsequently took up the study of medicine Through the kindness of William Hunter, one of his teachers, he was later introduced to Sir George Rodney, whom he accompanied as private physician in the flagship H M S *Sandwich*, despatched to raise the siege of Gibraltar in 1779 This voyage gave him an opportunity of studying many of those conditions of life at sea which he afterwards sought to ameliorate, and in 1781 he laid before the Board of Admiralty a memorial pointing out the neglect of cleanliness, ventilation, and dryness in the ships, the need for a supply of lemon juice to prevent and to cure scurvy, the prevalence of intemperance, the inadequate care of the sick on board ship the absence of proper bedding and soap, and the desirability of a gratuitous supply of medicines and other necessaries to naval surgeons It was not, however, till some 15 years later, when he was one of the commissioners of the Board of the Sick and Wounded Sailors, that he was in a position to enforce these necessary reforms Bearing in mind the danger of interpreting the speculation of former writers as the prophetic anticipation of modern knowledge, Surgeon General Rolleston thinks there is some ground for crediting Blane with the germ of the modern conception that the absence of a vitamine is the essential factor in the etiology of scurvy, though he did not, of course, employ the word But his use of the word deficiency ' in reference to one of the affections now known as deficiency diseases is quite up to date It is also interesting to note that Blane was not in favour of the whole time service of naval medical officers, arguing that as long as their official duties did not suffer, naval surgeons might advantageously occupy their spare time in increasing their professional experience by private practice Gilbert Blane died on June 26th, 1834, in his eighty fourth year, after many professional honours had been bestowed upon him Surgeon General Rolleston's extremely interesting monograph has as a frontispiece the unfinished portrait of Sir Gilbert Blane by Sir Martin A Shee, which is in the possession of the Royal College of Physicians of London

THE TRANSLUCENT BLIND

SOME householders are unnecessarily concerned, we think, about a new order in regard to domestic lighting which requires that no light should be allowed to filter through the blind So many blinds are not opaque but translucent that the order would appear to mean that these latter must be replaced by the former As a matter of fact such a revolution is not called for The translucent blind is only so when it is exposed to the direct rays of the light, and all that need be done is to screen with, say, a common strip of brown paper the side of the lamp which illuminates the blind By a translucent blind is meant a blind which while transmitting light does not disclose the interior of the room Thus ground glass is translucent while plain glass is transparent The simple expedient suggested fulfils the object of the order and saves much unnecessary expense and inconvenience

' WHAT'S IN A NAME ? "

THE Rev A Cyril Pearson has devised the following anagram on ' Blinded Soldiers and Sailors Hostel St Dunstan's Regent's Park N W " of which his son Mr C Arthur Pearson is the leading spirit — 'No sad dullness solid brightness rest train'd work pleasant ends' '

So far as we can see the only addition is the exclamation (!) and this the compiler of the anagram may be allowed to add as an expression of astonishment at his ingenuity

PRUDENTIAL ASSURANCE COMPANY

THE sixty seventh annual report of the Prudential Assurance Company for the year ending Dec 31st, 1915, shows that the war has naturally affected business, but in the Ordinary Branch a new annual premium income of £457,217 has been secured, and in the Industrial Branch a corresponding increase of £329,861 The war claims during the year, in both branches, number 26,826 and amount to £571,035 The total paid up to the present on this account since the outbreak of war exceeds £750,000 in respect of over 34,500 claims The assets of the company in all branches are £94,794,798, being an increase of £3,592,454 over those of 1914 In the Ordinary Branch the directors have added £600,000 to the Investments Reserve Fund which stands as at Dec 31st, 1915, at £1,600,000 In addition £700,000 have been set aside as a Special Contingency Fund, and £219 331 have been carried forward In the Industrial Branch the directors have added £342,365 to the Investments Reserve Fund, which, after deducting £92,365 representing realised loss on securities, principally due to conversion of Consols into War Loan Stock, stands as at Dec 31st, 1915, at £1,000,000 In this branch the surplus shown is £1,043,025, including the sum of £293,947 brought forward from last year (For 1913 the surplus was £1,837,621, including £508,116 brought forward) Mr J Burn, the actuary, says in his valuation report for 1915 that "the large reduction in the Industrial Branch surplus as compared with previous years is due to several causes, all of which are connected with the war The large amount paid in war claims has necessarily been for the most part in respect of policies on young lives where the reserves held were small, a combination of circumstances which puts the maximum strain upon the funds The average duration of the 20,859,887 policies in force in this branch exceeds 13 years The average age of the assured exceeds 34¾ years Mr Burn says, "The exact effect of the provisions in respect of life insurance premiums contained in the Courts (Emergency Powers) Act it is impossible to measure, and a greater strain in this respect must be anticipated for the coming year if the insurance provisions of the Act remain in force" The directors state that the necessity of reserving funds to meet the liabilities which this Act unnecessarily and inequitably creates is in a large measure responsible for the temporary suspension of the profit-sharing scheme, this year there will be no surplus profit-sharing by the shareholders or by the outdoor staff, while the fixed dividend of the shareholders will be reduced by £100,000 The balance sheet includes amounts totalling over £13,000,000 in War Loan and Treasury Bills The increase in the holding of British Government securities compared with last year is £11,849,133, against a decrease of £8,276 885 in railway and other debentures, home and foreign, principally due to the sale to the British Government in July last of the whole of the company's holding of United States securities, which transaction was acknowledged by Mr R McKenna, on behalf of the British Government, to have been of considerable assistance in facilitating Exchange operations, and he states that "the greatest credit is due to the company for its prompt action" The retiring directors are Mr T C Dewey, Mr T Wharrie, and Dr J I Boswell, who offer themselves for re-election The report adds that Dr Boswell was one of the earliest Volunteers and has been engaged on army medical duty since September, 1914, he is now serving as honorary surgeon in France The directors have sent between them 21 sons to the front, three of them, alas! to return no more No fewer than 9221 of their staff are either serving with the colours or have attested or been rejected for service

A GUIDE TO CHARITIES

AMONG reference books Herbert Fry's "Royal Guide to the London Charities" (London Chatto and Windus 1916 Pp 350 Price 1*s* 6*d*) deservedly holds a high place The chief feature of this guide is the alphabetical arrangement of the charities The date of foundation, the present address, objects, receipts, persons benefited, means of application, and chief officials are set out following the name of the institution This enables the reader to take in at a glance all the important details The current revised edition, the fifty second contains a preface on the charitable work of the year by Mr J Lane, the editor

QUEENSLAND'S VITAL STATISTICS FOR THE YEAR 1914

THE estimated population of Queensland on Dec 31st, 1914 according to the fifty fifth annual report of the Government Statistician, was 676,707 persons, being an increase of 16,549 persons for the year, in spite of a drop of 10,132 in the last quarter due to the departure of troops and nurses The birth rate for the year was 29 5, showing a slight decline on 1913, but better than during the earlier years of the decade In this respect Queensland compares favourably with the other Australasian States and, excepting Tasmania, is in the first place both for the annual and quinquennial periods A remarkable table is given showing the number of females from 15 to 45 years of age who are married or unmarried In 1901 the numbers were 53 617 married, 50,561 unmarried, and in 1911, 64,461 married, 69,976 unmarried, with the result that the total births to all females between the ages mentioned were in 1901, 137 3 per 1000, and in 1911, 126·4 per 1000 Taken in conjunction with the figures for the earlier decades this points to a distinct persistent decline in the birth rate, but in considering this—the report points out—the conjugal and age condition of the population must also be taken into account

LONGEVITY

THE following paragraph appeared in the *Daily Express* of Feb 26th, and is worth recording in a medical journal —

> Mr Samuel Hance, who died recently in the village of Rayne, Essex, had a history and a record which are thought to be without equal in Essex village life He died at the age of 91 years, and he had held the office of clerk at Rayne parish church for 50 years, the post having been held by members of his family for 195 years without a break The ages of Mr Hance's immediate ancestors were Father, Joseph Hance, 91; grandfather, John Hance, 91, great-grandfather, Henry Hance, 86, great great-grandfather, John Hance, 80, and great-great great grandfather, John Hance, 92 The Hance family has resided in Rayne for more than three centuries, and all the members mentioned above are buried in Rayne churchyard

Rayne is a village with a population of 400, and is situated 2½ miles west of Braintree and 5 miles east of Dunmow, of "Bacon flitch" fame

NESTLE'S WAR ALBUM

THOSE interested in infant life are probably familiar with the Nestlé's Baby Books, published annually, and containing pleasing pictures of babies brought up on Nestlé's milk The development to maturity of these infants, a matter of moment at all times, is especially so at the present juncture Messrs Nestlé have now published an album containing portraits of some 200 sailors and soldiers engaged in the war who were brought up on their milk Members of the medical profession can obtain a copy gratis on sending their card to Messrs Nestlé, Eastcheap, London, E C

Rosario should discuss enrolment with the Central Medical War Committee (Secretaries, Dr Alfred Cox and Mr N Bishop Harman, 429, Strand, London, W C)

COMMUNICATIONS not noticed in our present issue will receive attention in our next

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Medical Diary for the ensuing Week.

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W

MEETINGS OF SECTIONS

Wednesday March 15th.

HISTORY OF MEDICINE (Hon Secretaries—Leonard G Guthrie J D Rolleston): at 5 P M

Books MSS &c on view at 4.30 P M

Mr R R. Steele: A Note on the Scientific Writings of Roger Bacon

Mrs Charles Singer Plague Manuscripts

Sir William Osler Bart F R S: The MSS of the *Religio Medici*

Captain T A. Malloch, C A.M C Sir John Finch and Sir Thomas Baines

Thursday, March 16th.

DERMATOLOGY (Hon. Secretaries—A M H Gray, J E R McDonagh): at 5 P M

Exhibition of Cases (at 4.30 P M):

Dr George Pernet (1) Dermatitis Herpetiformis in a Boy (2) Staphylococcia in a Girl with Xerodermia (Staph en nappe et en foyers à progression excentrique)

And other Cases

Friday March 17th.

ELECTRO THERAPEUTICS (*Hon Secretaries—S Gilbert Scott E P Cumberbatch*) at 8.30 P M.

Discussion

On Experiments and Experiences with the Coolidge Tube.

Opened by Dr R. Knox on Experiments with Rotatory and Fixed Tube

Sir James Mackenzie Davidson *Dr Orton, and Dr Finzi* will also speak

Members wishing to take part in the Discussion will kindly communicate with Dr Gilbert Scott 6 *Bentinck-street, W*

ROYAL MICROSCOPICAL SOCIETY 20 Hanover-square W WEDNESDAY —8 P.M Prof J A. Thomson: *Original Factors in Evolution* —Sir E Ray Lankester K C B: The Supposed Exhibition of Purpose and Intelligence by the Foraminifera.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE 11, Chandos-street, Cavendish-square W
FRIDAY —5.30 P.M. Paper —Captain H. J McGrigor R.A.M.C Some Experiences in the Treatment of Syphilis in the Army with Special Reference to the Administration of "606" in Concentrated Solutions —Dr H Bayon: Short Demonstration of Sections and Cultures of Skin Diseases, with some Remarks on the Treatment of Syphilis in African Native Tribes and among the Workers in the Rand Gold Mines.

LECTURES, ADDRESSES, DEMONSTRATIONS &c

ROYAL COLLEGE OF PHYSICIANS OF LONDON Pall Mall East.
TUESDAY AND THURSDAY—5 P.M., Milroy Lectures —Dr S G Moore Infant Mortality and the Relative Practical Values of Measures directed to Protecting Infant Lives (Lectures II. and III.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND Lincoln's Inn Fields W C
Course of Lectures on the Anatomy of the Human Body for First aid and Ambulance Students (open to all members of ambulance companies and first aid classes) —
MONDAY WEDNESDAY AND FRIDAY —5.30 P M., Prof A. Keith 4 P M to 7 P M Exhibition of Anatomical Preparations and Specimens in the Theatre on lecture days, and between 10 A.M. and 5 P M in the Hall of the Museum on the following day

POST-GRADUATE COLLEGE West London Hospital, Hammersmith road W
MONDAY —2 P.M., Medical and Surgical Clinics X Rays Mr Gray: Operations. Mr B Harman: Diseases of the Eye. Dr Simson: Diseases of Women.
TUESDAY —2 P.M., Medical and Surgical Clinics. X Rays. Mr Addison Operations. Dr Banks Davis: Diseases of the Throat Nose and Ear Dr Pernet Diseases of the Skin.
WEDNESDAY —10 A.M., Dr Saunders: Diseases of Children. Dr Banks Davis Operations of the Throat, Nose and Ear 2 P.M., Medical and Surgical Clinics. X Rays. Mr Pardoe Operations Dr Simson: Diseases of Women.
THURSDAY —2 P.M., Medical and Surgical Clinics. X Rays Mr Gray Operations. Mr B Harman: Diseases of the Eye.
FRIDAY —10 A.M. Dr Simson: Gynæcological Operations 2 P.M. Medical and Surgical Clinics X Rays. Mr Addison: Operations. Dr Banks Davis: Diseases of the Throat Nose, and Ear Dr Pernet: Diseases of the Skin.
SATURDAY —10 A.M. Dr Saunders: Diseases of Children. Dr Banks Davis: Operations of the Throat, Nose, and Ear Mr B Harman Eye Operations 2 P.M., Medical and Surgical Clinics X Rays Mr Pardoe Operations

NORTH EAST LONDON POST-GRADUATE COLLEGE Prince of Wales's General Hospital, Tottenham N
MONDAY —Clinics:—10.30 A.M. Surgical Out patients (Mr E Gillespie) 2.30 P M., Medical Out-patients (Dr T R. Whipham): Gynæcological Out-patients (Dr Banister) 3 P.M., Medical In patients (Dr R. M. Leslie)
TUESDAY —2.30 P.M. Surgical Operations (Mr Carson) Clinics:—Medical Out patients (Dr A. G Auld) Surgical Out-patients (Mr Howell Evans) Nose, Throat, and Ear Out patients (Mr C H. Hayton) Radiography (Dr Metcalfe) 3.30 P.M. Medical In patients (Dr A. J Whiting)
WEDNESDAY —Clinics —2.30 P.M., Throat Operations (Mr C H Hayton) Children Out patients (Dr T R. Whipham) Eye Out patients (Mr R. P Brooks) Skin Out-patients (Dr H W Barber) 5.30 P M. Eye Operations (Mr R. P Brooks)
THURSDAY —2.30 P.M., Gynæcological Operations (Dr A. E. Giles) Clinics:—Medical Out patients (Dr A. J Whiting) Surgical Out patients (Mr Carson) Radiography (Dr Metcalfe) 3 P.M. Medical In patients (Dr R. M. Leslie)
FRIDAY —2.30 P M., Surgical Operations (Mr Howell Evans) Clinics —Medical Out patients (Dr A. G Auld) Surgical Out patients (Mr E. Gillespie) Eye Out-patients (Mr R. P Brooks)

THE THROAT HOSPITAL, Golden square W
MONDAY —5.15 P M Special Demonstration of Selected Cases.
THURSDAY —5.15 P M. Clinical Lecture.

ROYAL INSTITUTION OF GREAT BRITAIN Albemarle-street Piccadilly W
TUESDAY —3 P.M., Prof A. Keith: Sea Power as a Factor in the Evolution of Modern Races. (Lecture I.)
THURSDAY —3 P M Prof H E Armstrong Organic Chemistry in War—Organic Products used as Propulsive and Explosive Agents. (Lecture I.)

For further particulars of the above Lectures &c. see Advertisement Pages

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office March 8th 1916.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks
Mar. 2	[illegible]	N E	0·0[illegible]	41	41	33	33	33	Overcast
" 3	[illegible]	N E	0·17	47	[illegible]	33	35	[illegible]	Raining
" 4	[illegible]	N E	0·02	73	42	33	[illegible]	[illegible]	Cloudy
" 5	[illegible]	N	—	73	42	31	33	[illegible]	Fine
" 6	[illegible]	N	0·15	[illegible]	[illegible]	31	[illegible]	33	Cloudy
" 7	29·[illegible]	N	[illegible]	[illegible]	[illegible]	31	[illegible]	33	Snowing
" 8	[illegible]	N	—	[illegible]	[illegible]	33	3[illegible]	3[illegible]	Snowing

The following magazines, journals, &c., have been received — [illegible] Review [illegible] Bulletin of the Johns Hopkins Hospital [illegible] Medical Journal [illegible] Chirurgical [illegible] Gazette [illegible] Medico-Chirurgical Journal [illegible] Dental Science [illegible] Dental Journal [illegible]

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager"*

We cannot undertake to return MSS. not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title-page to Vol. II of 1915 were given in THE LANCET of Dec. 25th. 1915

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VOLUMES for the second half of the year 1915 are now ready Bound in cloth, gilt lettered, price 16s carriage extra.

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THE Secretary of the War Office has issued the following order —

> The public are informed that on and after Saturday, November 6th, newspapers, magazines, books, and other printed publications (other than trade circulars) will not be sent forward to neutral European countries unless posted direct from the office of publishers or newsagents who have obtained permission from the War Office for this purpose Persons desiring to send newspapers, &c, to neutral European countries should, therefore, give their orders for execution to publishers or newsagents who have obtained such permission

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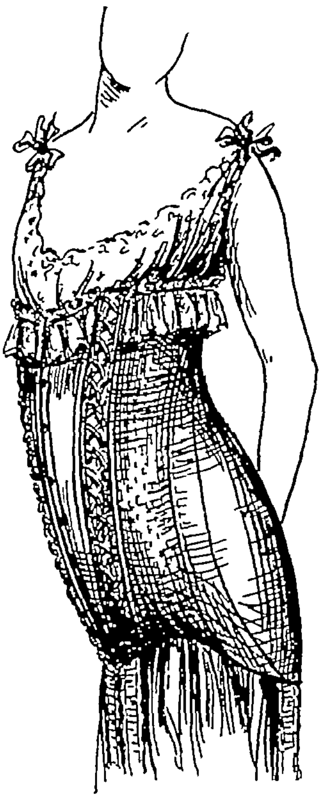

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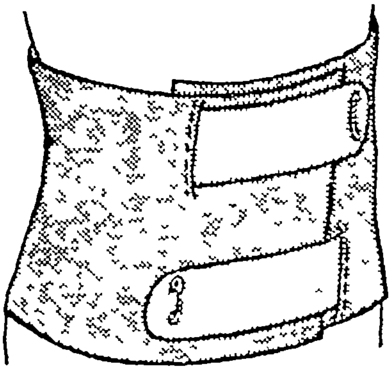

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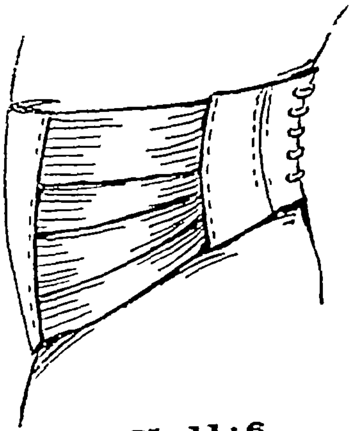

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Hunterian Lecture

ON

THE PITUITARY FOSSA AND THE SURGICAL METHODS OF APPROACH TO IT

Being the substance of a Lecture delivered before the Royal College of Surgeons of England on Feb 7th, 1916,

BY V ZACHARY COPE, B A, M.S, M.D LOND, F R C S ENG,

HUNTERIAN PROFESSOR SURGEON TO OUT PATIENTS AND ORTHOPÆDIC DEPARTMENT, ST MARY'S HOSPITAL, ETC.

MR PRESIDENT AND GENTLEMEN,—During the past ten years a vivid scientific light has been focussed on the pituitary gland, and our knowledge of its functions in health and deviations in disease has been greatly increased. The physician and neurologist have found that increase or diminution of glandular function leads to recognisable clinical symptoms, whilst general surgeons and rhinologists have been asked to operate for such conditions of the gland which lead to those symptoms and are amenable to surgical treatments Yet in spite of the excellent work done no general agreement has yet been attained as to the best route of surgical approach The present study aims at supplying some facts which may help to determine the best surgical procedure

COMPARATIVE MORPHOLOGY AND DEVELOPMENT IN MAN

A pituitary body is present in all vertebrates, but in the lower types the protection afforded by the skeleton is not so specialised as in mammals In fishes with a persistent cartilaginous skull-base a shallow depression for the gland can be seen In the lower reptiles towards the anterior end of the bony floor of the skull there is a small depression overhung by a ridge of bone which corresponds to the dorsum sellæ of higher vertebrates When we examine such well developed skulls as those of the higher reptiles (alligator or tortoise) we find a well protected deep excavation in the body of the sphenoid Birds have a small and insignificant fossa, but the majority of mammalian skulls show a well marked depression which is built more after the pattern of the higher reptiles

The pituitary fossa is formed at a nodal point in the base of the skull between the trabeculæ cranii in front and the notochord and parachordal cartilages (basal plate) behind It is situated just behind and above the nasal capsule, and varies in shape and position according to the relations which the facial skeleton bears to the cranium A study of the higher vertebrates skull shows that it is a function of the basi or post sphenoid to form the pituitary fossa. This can be seen best in those animals which have no sphenoidal sinus such as the sheep or seal In animals with well developed sphenoidal sinuses, for example the pig or in which the facial skeleton is placed more under the forebrain, the pre sphenoid may form a small portion of the anterior wall of the fossa (e g, the chimpanzee)

In the human embryo the fossa is formed in cartilage at a very early stage In a reconstruction model, which by Professor J F S Frazer s kindness I was able to make, of an embryo of 28 mm a recess with a well marked posterior wall can be observed at the anterior extremity of the basal plate This posterior wall which is the future dorsum sellæ, is made up of cartilage and membrane At this time there is no anterior wall to the fossa and the condition is more akin to that found in the lower reptiles The anterior boundary of the fossa apparently is elevated by the upgrowth of the facial skeleton and thus the normal shape of the fossa is completed Bony nuclei are laid down in the cartilage of the post-sphenoid region around the fossa at about the eighth week of fœtal life The nucleus of the basi sphenoid forms the base of the fossa, and the pre sphenoid bony deposit does not at first form one of its boundaries At birth the fossa can be seen surmounting the basi- and part of the pre sphenoid, and the cartilage between the two can be seen stretching from the naso pharynx to the antero inferior part of the sella At this time the clinoids and the dorsum sellæ are not ossified fully

The cranio pharyngeal canal, which represents the route along which the pharyngeal portion of the pituitary gland enters the skull to meet its nervous counterpart, is generally closed long before birth, but may persist longer This canal traverses the anterior part of the post-sphenoid and does not lie between the pre and post sphenoid as is generally stated A comparative study of mammalian skulls made me regard the current statement as incorrect, and actual examination of fœtal skulls soon showed the remnants of the canal in the basi sphenoid

After birth the fossa grows gradually as the contained gland and the skull base develop A series of radiographic photographs of the sellæ of children of average size from 6 to 14 years shows that there is normally great variation in size, and that one cannot say that there is any particular age at which any special increase in size occurs

NORMAL ANATOMY OF THE PITUITARY FOSSA

The pituitary fossa or sella turcica forms the narrow median segment of the middle cranial fossa It lies at the centre of the cranial base and is almost equidistant from the root of the nose and the posterior margin of the foramen magnum A large number of basal fractures tear across the floor of the sella, and it may be that some of those deaths from fractured base unaccompanied by any grave hæmorrhage or cerebral laceration are the result of severe injury to the pituitary gland lying close to the site of fracture

The shape of the fossa in sagittal section is like a U with the opening inclined slightly forwards This shape is masked on a lateral view by the projecting anterior clinoid process In many dried skulls the exact shape is not so readily determined owing to the breaking away of the dorsum sellæ, which forms the posterior limit of the U The floor is slightly concave and is formed by the upper surface of the body of the sphenoid It is limited laterally by a rounded ridge, just external to which is the groove which the internal carotid artery makes on the side of the sphenoidal body Sometimes the carotid groove is lifted up by the subjacent sphenoidal sinuses and lies almost on a level with the floor of the sella The anterior sloping surface leads up to the tuberculum sellæ, just below which is sometimes seen a transverse ridge for attachment of the diaphragma sellæ In front of the tuberculum lies the optic groove which does not lodge the optic chiasma. The optic foramina are at the lateral extremities of the optic groove and lie about 1 cm apart

Occasionally the optic groove is replaced by a smooth, bulging convex surface, whilst at other times it is represented by a horizontal niche in the anterior wall of the fossa. In the latter case the limbus overhangs the fossa and increases its depth Such an arrangement might cause increased difficulty in approaching by the frontal route

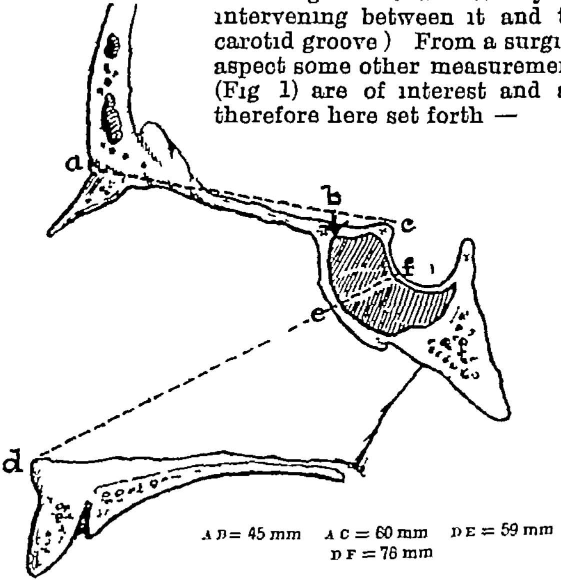
The three clinoid processes are not equally important The anterior usually projects well back and sometimes fuses with the posterior, which, as a rule, does not extend far forward from the lateral part of the dorsum sellæ The middle clinoid process is situated laterally to the tuberculum sellæ and is not constant Sometimes it joins with the anterior clinoid to form a bony foramen for the internal carotid

The size of the normal pituitary fossa varies considerably In a series of measurements made upon over 50 skulls from this museum, the South Kensington Museum, and St Mary's Hospital Medical School the average dimensions were ascertained

	Varied from	Average.
Antero-posterior measurement	7 to 14 mm	10 94 mm
Transverse ,,	9 ,, 15 ,,	11 02 ,,
Depth ,,	3 ,, 10 ,,	5 82 ,,

In rough measurements the fossa is 11 mm long and broad, and 6 mm deep (The antero posterior measurement was the maximum horizontal measurement of the fossa in each case The transverse points on which the callipers were fixed were the prominences bounding the fossa laterally and intervening between it and the carotid groove) From a surgical aspect some other measurements (Fig 1) are of interest and are therefore here set forth —

FIG 1



From anterior nasal spine to nearest point of sphenoidal sinus	59 28 mm
From anterior nasal spine to nearest point of pituitary fossa	76 19 mm
From root of nose to antero-superior angle of sphenoidal sinus	45 11 mm
From root of nose to anterior margin of the pituitary fossa	60 1 mm

These measurements agree within 2 or 3 mm with those published by Stanley Gibson There does not seem to be any definite relationship between the size and shape of the skull and those of the pituitary fossa The distance from the temporal fossa to the sella turcica was not noted in many of the skulls, but it is less than the distance from the nasion, and averages about 50 mm

The sella is lined by dura mater and is roofed in by the diaphragma sellæ, so that the gland is hemmed in by a cuboidal box, three sides of which are bone and three sides fibrous The dura is firmly attached to the anterior and posterior clinoids, but fortunately for surgeons it can more easily be stripped up from the floor of the fossa and from the region of the optic groove The lateral aspects of the fossa are closed in by the cavernous sinuses, through which travel the internal carotid arteries and the third, fourth, and sixth cranial nerves, and ophthalmic division of the fifth nerve

The diaphragma sellæ is attached not to the top of the dorsum but along a line just below the thickened upper margin, anteriorly it is attached just below the tuberculum sellæ The diaphragm is strong near its attachments to the bone, but becomes thin and weak as it approaches the central opening through which the pituitary stalk issues, sometimes it is a very feebly marked structure

Relations to Sphenoidal Sinuses

The relations of the fossa to the sphenoidal sinuses at different ages need to be considered in detail The sphenoidal sinus is very small during the first few years of life and is limited to the anterior part of that section of the bone formed from the pre sphenoid Somewhere between the seventh to the fourteenth years the sinus enlarges until the whole of the pre sphenoid area is excavated The process may stop at this stage and many adult skulls show this arrangement Since the pituitary fossa is formed in the post sphenoid, the sphenoidal sinus in these cases does not come into close relationship with the fossa In the majority of cases, however, the excavation proceeds back into the basi sphenoid, but the barrier between the pre and post sphenoidal segments is frequently indicated by a partial septum or ridge clearly visible inside the sinus This septum or ridge is attached to the antero inferior aspect of the sella turcica, and in view of its frequent occurrence is worthy to be called the *trans sphenoidal crest* or *septum*

In the pig, whose sphenoidal sinuses are well developed, there is a synarthrodial joint between the pre and post sphenoid, but the backward growing air sinus bursts through this joint to one or other side of the mid line and proceeds to excavate the post sphenoid This process may occur in such a way that the whole basi sphenoid is hollowed out by a prolongation of one sinus, in such a case the opposite sinus is small and almost confined to the pre sphenoid

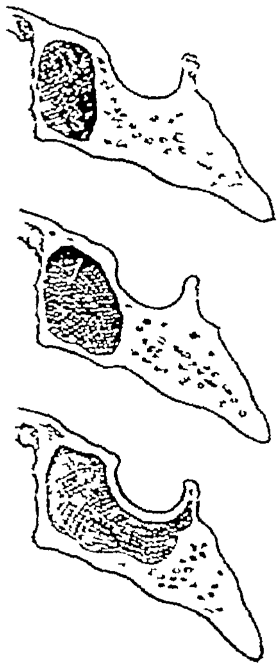
FIG 2

Showing trans sphenoidal crest and carotid button

Many indications of a similar process are to be observed in human skulls, and it is possible that many of the curiously and markedly deviated sphenoidal septa consist of two parts a median inter sphenoidal portion and a trans sphenoidal element For example, in a skull examined in the

South Kensington Museum the pre sphenoidal part of the septum is median, whilst the post sphenoidal portion deviates to the left, a condition explained by the absorption of the right half of the trans sphenoidal and the posterior portion of the median septum Traces of the lateral portions of the trans sphenoidal septum can be seen frequently in the form of a vertical or oblique bony buttress attached opposite the carotid groove This process might well be called the *carotid buttress* (Fig 2)

FIG 3



Showing varying relation of sphenoidal sinus to pituitary fossa

In quite a large number of cases the excavation of the sphenoid is so complete as to absorb totally the cancellous tissue and leave no trace of trans sphenoidal crest or septum, there is then a scaphoid shaped sinus into the roof of which the sella turcica bulges The varying relation of the pituitary fossa to the sphenoidal sinus is shown in the accompanying diagrams (Fig 3)

It will be seen that the pituitary fossa often causes no bulge into the pre sphenoidal type of sinus, and if it does, it is in the postero superior angle of the sinus, whilst in the post sphenoidal type the bulge is always present but is on the roof of the sinus Any attempts to open up the postero superior wall of the latter type would cause injury to the clivus, and exposure of the crura cerebri

The relationship of the median inter sphenoidal septum to the fossa is not constant Its posterior attachment is frequently to one side of the middle line, so that a surgeon taking it for his guide might open into the cavernous sinus This fact renders the frequent bulge of the internal carotid artery into the sinus of greater significance though it is certainly unlikely that such a bulge would be mistaken for the sella

The sphenoidal sinus nearly always reaches up immediately in front of the fossa to the optic groove and jugum sphenoidale, thus lying immediately underneath the posterior part of the floor of the anterior cranial fossa. In some cases indeed the optic nerves form a well marked bulge into the sinus and there may in fact, be a supra optic recess Occasionally the posterior ethmoidal cell insinuates itself above the sphenoidal sinus and comes into relationship with the anterior part of the sella turcica a condition which has occasionally caused surgeons to miss the direct way to the sella

In rare cases the sphenoidal sinuses remain rudimentary and then a thick portion of cancellous tissue will intervene between the nasal fossa and the sella turcica

Base of the Brain

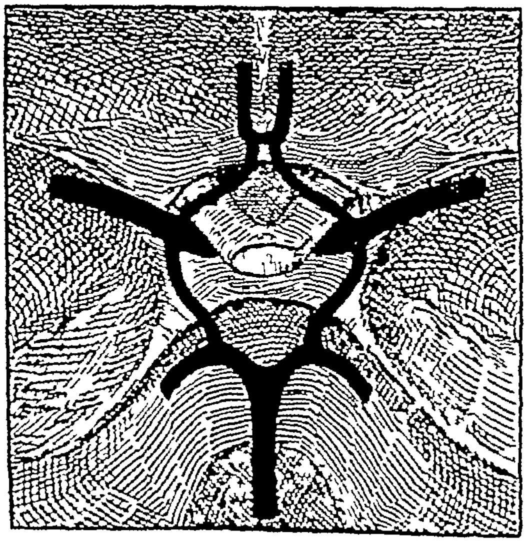
Above the tentorium sellæ lies the large subarachnoid space (cisterna basalis), which separates the structures in the interpeduncular space from the base of the skull Through this gap which is filled with cerebro spinal fluid, the stalk of the pituitary courses backwards and upwards to reach the floor of the third ventricle, which lies well above the fossa

The optic chiasma lies slightly behind the sella turcica at a height of about 1 cm above the diaphragma sellæ As the optic nerves diverge from the chiasm to reach the optic foramina they cross the roof of the fossa leaving a triangular gap between them and the anterior wall of the fossa through which the anterior part of the pituitary body is visible A gap of 10 mm separates the optic nerves as they enter the orbits For any pressure or traction to be exerted on the optic chiasma by a tumour growing from the sella the growth would have to protrude well out of the fossa Theoretically one would expect the anterior aspect of the chiasm to be the first part to suffer pressure from an up-growing pituitary tumour

Close behind the posterior aspect of the dorsum sellæ and the clivus are the crura cerebri, tumours breaking the bounds of the fossa would soon press against these structures The clivus is frequently separated from the sphenoidal sinuses by the merest shell of bone, indeed, specimens are to be found in which part of this shell of bone was wanting and a direct connexion existed between the sphenoidal sinus and the posterior fossa of the skull

The vascular relations of the fossa are simple but important It is surrounded by a venous and surmounted by an arterial circle The venous circle is formed by the two cavernous and the anterior and posterior inter cavernous sinuses (On at least one occasion the anterior inter cavernous sinus has been reported as enlarged in a case of hypophyseal tumour) The sinuous way in which the internal carotid courses through the cavernous sinus is well known just above the fossa it breaks up into the anterior and middle cerebral, which take part in the formation of the circle of Willis That arterial circle thus surrounds the upper aperture of the fossa, and its exact relations can be judged by a glance at the illustration which is diagrammatically made from a specimen in this Museum (Fig 4) One can readily see how any pituitary growth ascending

FIG 4



Showing the relations of the circle of Willis to the base of the skull and the pituitary fossa. The optic chiasma is shown cut across from the fossa would enter the arterial circle and would be embraced more tightly in proportion as it increased in size Moreover, it will be observed that the optic nerves lie beneath the anterior part of the circle, so that as the optic chiasma is pushed up by a tumour the optic nerves will gradually be dragged on and strangled between the neoplasm and the arteries Post mortem accounts confirm this occurrence and show that the circle of arteries may clasp the tumour just as would a piece of string tied tightly round it

PATHOLOGICAL ANATOMY

The bony and dural limits of the fossa offer considerable resistance to any increase in size of the gland, so that any alteration in contour is of significance Any marked deviation from the normal can readily be detected in the living subject by the X rays The abnormal fossæ may be classed in three groups (1) Enlarged sellæ with contour not deformed, (2) sellæ smaller than usual, and (3) deformed sellæ

1 *Enlarged sellæ*—Enlargement may be due to adenomatous overgrowth of the anterior part of the gland, to malignant neoplasm originating in the fossa, and possibly to repeated physiological enlargement due to increased functional activity

Many cases of acromegaly furnish fossa of this type in which all the diameters are enlarged Fearnsides identifies with acromegaly a special type of fossa having an anterior and posterior bulge Though this form is not constant in the disease its occurrence is interesting since the spot where the fossa does not so readily atrophy and enlarge corresponds to the site of the trans sphenoidal crest—i e, the strongest part in the floor of the sella. A marked thinning of the bony walls usually occurs, and in dried specimens the thinned dorsum sellæ is generally missing

The inter relation between the thyroid and the pituitary is suggested by the undoubted enlargement of the sella in cases of cretinism Again, in that curious disease achondroplasia the sella is sometimes considerably enlarged in a symmetrical manner, and the fact that in such patients the skull base is prematurely ossified adds significance In view of the skeletal changes commonly associated with pituitary derangement it is interesting to note that in osteitis deformans there is no enlargement of the sella, but only a thickening of the clinoid processes

There are other less common causes of sellar enlargement Hirsch states "that demonstrable enlargement of the sella can be caused by other processes such as general or localised hydrocephalus, chronic circumscribed meningitis, and tumours of other parts of the brain" One case under my care had the fossa enlarged in consequence of chronic syphilitic meningitis

2 *Sellæ smaller than usual*—Very small fossæ are seen in connexion with those cases of hypopituitarism associated with imperfect development of the gland In some cases of so called idiopathic epilepsy the fossa is smaller than normal and accompanied by a marked approximation of the clinoid processes (Castellain)

3 *Deformed sellæ*—The fossa may be deformed (*a*) by tumours bursting from within, or (*b*) by interpeduncular neoplasms pressing down from above

(*a*) Exactly the nature of the deformation probably depends considerably on the rate of growth of the neoplasm A slowly growing tumour would be more likely to cause a thinning of the walls of the fossa and a gradual stretching of the diaphragma sellæ, a rapidly growing tumour would more probably burst through the dural covering before much erosion of the fossa walls had occurred The first part of the surrounding walls to give way is almost always the dural roof, which has a weak central portion which the pituitary stalk traverses Calling to mind the usual shape of the fossa it will be seen that the tumour will advance upward and forward, and the first supra sellar *projection will be in front of the optic chiasma* In this way pressure may first be exerted on the anterior fibres of the chiasm When once escaped from the fossa a neoplasm would direct itself along the line of least resistance backward into the interpeduncular space, and later it would invade the third ventricle or frontal or temporal lobes The dorsum sellæ and the anterior and posterior clinoid processes are stronger and more resistant, but gradually get eroded by a steadily growing tumour The lateral X ray outline of the dorsum sellæ may be retained owing to the persistence of the posterior clinoids and the thick lateral portions of the dorsum, even though the thinner mid portion be totally absorbed. Writers have sometimes described the "pushing back" of the dorsum by a growth I have seen no evidence of such a movement Even when the dorsum is extremely thin it preserves its original direction until it is obliterated or absorbed This suggests that new bone is not readily formed in this situation under the stimulus of the tumour growth

The fossa assumes a cup shaped outline at a certain stage of erosion, whilst later all traces of original shape may be banished

Sometimes the antero inferior wall of the fossa is eroded and the sphenoidal sinus opened by an advancing neoplasm, though this never occurs before the endocranial extension has taken place More frequently the bulging of the sella into the sinus is accentuated, as the sellar floor is thinned more bone is formed, so that ultimately only a few millimetres may separate the sella from the anterior sphenoidal wall In no other way can we explain the common experience of operators who meet the thinned sellar floor immediately on opening the sinus

By comparing X ray pictures taken during life with post-mortem records, we may conclude that if the dorsum sellæ or anterior or posterior clinoid processes are obliterated or markedly eroded, there must be a large intracranial extension to the tumour The same holds good if the growth has burst into the sphenoidal cells

(*b*) Interpeduncular tumours gain a considerable size before their downward pressure causes erosion of the dorsum sellæ and the clinoids Later a total obliteration of the confines of the gland may result but for some time the main outline and size of the fossa may remain fairly normal, whilst the upper aperture appears larger than normal

SURGICAL APPROACH

It is reported that only a few years ago a famous surgeon remarked that it was tempting Providence to operate in the region of the hypophysis and if we consider the comparative inaccessibility of the fossa and reflect that till recently our knowledge of the functions of the hypophysis was very vague it is certainly no matter for surprise that this has been one of the last parts of the body to be explored by the surgeon The last decade, however, has witnessed the birth and development of hypophyseal surgery, and now that many methods have been tried and records published the time has come to survey these experiences and, if possible, draw some conclusions for future guidance

All over the world Horsley is recognised as the pioneer of pituitary surgery He followed his experimental investigations (published in 1886) by suggesting an operation for approaching the gland to Paul, of Liverpool (in 1893), and although this operation was not fully carried out it raised the question of the feasibility of the operation. Horsley himself operated on one case certainly as early as April, 1904, and possibly still earlier than this, but every writer on this subject has had to regret that this noted operator has not published full details of his cases Horsley adopted a route through the temporal fossa and had already done nine such operations by 1906

Meanwhile others were considering different methods of approach In 1900 König published his views favouring a transpalatal approach whilst Loewe and Kocher devised methods of resection of the upper jaw and palate in order to obtain sufficient room to attain the fossa through the sphenoidal cells In 1904 Kiliani experimented on the cadaver and outlined an extensive operation in which a large bilateral frontal bone flap was reflected, the dura opened, the longitudinal sinus ligated and the frontal lobes elevated

Krause who in 1900 removed a bullet from the chiasmal region by utilising a frontal bone flap, in 1905 removed a large tumour by the same method from the neighbourhood of the pituitary fossa. He reached a depth of 10 cm, but the patient did not survive

In 1906 a great impetus was given to the quest of a suitable route of approach by Schloffer's article in which he considered critically the various proposed operations In the succeeding year he operated successfully by the nasal route on a patient with bitemporal hemianopsia. Quickly succeeding the publication of this case were developed a multitude of modifications of the operation by the nasal route all of which had as the basis a partial or complete removal of the nasal septum turbinate bones ethmoidal cells, and possibly the anterior walls of the frontal sinus Approach to the nasal cavity was often furthered by splitting or reflecting the nose

In 1909 Kocher adopted a submucous resection of the septum for approaching the sphenoid and in the following year both Hirsch and Cushing perfected their submucous operations which have now with slight modifications, been performed successfully on a large number of cases The need for an aseptic route has recently caused a revival of the approach direct through the cranium in the frontal region extra room being gained by depressing the eyeball after removal of the orbital roof

The pituitary fossa has therefore been arrived at either direct through the cranium or indirectly through the facial skeleton The following table shows the routes that may be utilised —

Cranial	
Temporal —	Frontal (Krause)
Intradural (Horsley)	Fronto-orbital (Frazier)
Temporal —	
[illegible] (Frazier)	Callosal puncture
F[illegible]	
Nasal —	
[illegible] (Schloffer)	[illegible] ([illegible] Kahler)
Hirsch West Cushing	Labial ([illegible])
Kanavel Halstead	Maxillary
Nasal —	
[illegible] (Hirsch)	[illegible]

The region immediately above the pituitary fossa may be reached by trephining the vertex and puncturing the corpus callosum, but though this method has been useful in relieving general pressure symptoms it is impracticable as a route of approach for removal of a tumour

There are only four of these methods which have been practised on a sufficient number of cases to merit special attention These are Horsley's temporal method, Schloffer's coarse nasal operation, Hirsch and Cushing's submucous septal approach, and Frazier's fronto orbital route

Temporal Method

Though Horsley has never published the details of his cases one has gathered the following facts from those who have seen him operate and from the accounts of four pituitary cases operated on by Horsley mentioned in Tooth's classical paper on Brain Tumours Horsley operates in two stages, in the first making a temporal bone flap, and in the second incising the dura, lifting up the temporal lobe and exposing the lateral aspect of the pituitary body Of the four cases referred to above, one died six hours after the operation without recovering consciousness, another developed hemiparesis and hemianæsthesia after the second stage of the operation, whilst in a third case the operation caused motor aphasia lasting some time Certainly the distance from the temporal fossa to the sella turcica is the shortest possible route of approach, but the temporal lobe has to be dislocated very seriously, and unless the tumour peeps over the cavernous sinus it would almost be inaccessible Cushing found the method impracticable in human beings although easy in dogs Horsley in 1906 said that he had had two deaths in ten cases

Schloffer's Nasal Operation and other Methods

There are very many modifications of Schloffer's method, which agree, however, in these points An approach is gained to the nasal cavity either directly through the anterior nares or by reflecting the nose downward upwards, or to one side, or by splitting it in various ways or by a sublabial incision Varying portions of the nasal septum and lateral walls of the nasal fossa are removed to furnish more room the sphenoidal sinus is opened and through it the pituitary fossa is approached Von Eiselberg's technique may be taken as an example since he has performed the operation more often than any other surgeon

The posterior nares are plugged by Belloc's method and the threads brought through the right nostril and the mouth and then tied over the lip An incision is made along the left naso-labial furrow round the left ala nasi and continued up to the root of the nose and as far as the glabella, a small transverse continuation going as far as the inner canthus of the right eye The incision cuts through the whole thickness of the skin The nasal bone is cut through with bone forceps or chisel Then the philtrum is cut through and the anterior part of septum severed in such a way that a large piece of the cartilage and vomer remain attached to the reflected nose This technique is supposed to prevent a sinking in of the nose afterwards The whole external nose is now reflected to the right and either retracted or fixed to the cheek by a suture The turbinated bones and the rest of the nasal septum are now removed but the mucous membrane between the turbinates is not disturbed the last part of the vomer and the rostrum of the sphenoid are taken away and the sphenoidal sinus is opened

The radiogram is now frequently consulted and the distance of the sphenoidal sinus from the glabella estimated and compared with the dimensions in the patient After removal of the anterior and under portion of the wall of the sphenoidal sinus the mucous membrane lining the sinus is carefully removed with sharp spoon and raspatory, whereby the swelling caused by the pituitary fossa is brought clearly into view in the upper and posterior portion of the sinus The swelling is carefully broken into by a chisel and the hypophysis exposed. The opening is enlarged by the aid of a sharp spoon or small chisel or a punch forceps After incision of the dura mater one generally sees a pulsating swelling (especially when it is cystic) By the aid of a sharp spoon is now taken away as much of the tumour as can easily be removed without going too deeply in towards the brain

An isoform gauze strip is passed through a drainage-tube of medium size, and a 4 cm long portion allowed to project from the end This projecting piece of gauze is laid in the pituitary fossa and the lower end of the tube sewn to the skin at the left nasal aperture The nasal cavity is now swabbed, inspected, and, if there is no more bleeding, the Belloc s plug is removed The nose is then stitched back in its place The operation takes one to one and a half hours

Von Eiselberg had in the year 1912 performed 16 operations by the Schloffer method Five of these cases developed meningitis after the operation and four succumbed to the meningeal infection Since this operator has had better results than the average, the outlook would not be promising if there were no better method such as is provided by either of the next two operations to be described Before discussing the advantages and disadvantages of this operation we will describe Cushing's and Frazier's operations

Hirsch and Cushing's *submucous septal approach* is really one of the most ingenious in the whole range of surgery

Cushing used to plug the posterior nares with a sea sponge and put the head in a moderate Rose's position Lately he has abandoned the post-nasal plugging and used intratracheal insufflation anæsthesia A 2 cm long incision is made transversely in the frænum of the upper lip and by blunt dissection the lower margin of the nasal septum exposed The mucous membrane is then dissected back from the septum on both sides and retractors inserted allowing of the removal of a strip of septum including most of the vomer, the lower edge of the median plate of the ethmoid, and a small strip of cartilage Dilating forceps are then introduced between the retractors (so as to flatten the turbinates) and a bivalve speculum inserted in place of the retractors With the aid of a good head light the attachment of the septum to the sphenoid is exposed and the anterior and lower walls of the sinuses are chipped away with special rongeurs The lining mucous membrane of the sinus is then removed and the floor of the exposed sella turcica removed No drainage is carried out "Every step must be absolutely under the operator's direct vision "

The differences between Cushing's technique and that of Hirsch are as follows —

Hirsch operates under local anæsthesia. A preliminary removal of the middle turbinates is customary some days before the main operation, so that dilatation of the submucous passage by special plugs is unnecessary The initial incision is made through the mucous membrane of the septum to one or other side Hirsch lays stress upon precise arrangements being made for the operation to ensure an undisturbed procedure A steriliser is kept handy and the instruments are frequently re-sterilised during the operation

The *fronto orbital method* of Frazier is performed by that operator in the following manner —

As a preliminary the frontal sinuses are transilluminated to observe their relation to the supra orbital margin Under general anæsthesia an osteoplastic flap is formed in the frontal region The line of incision starts at the external angular process and is continued forward along the supra orbital ridge through the eyebrow line till the mid line at the root of the nose is reached, then it ascends vertically till well within the scalp hair line finally turning horizontally outwards and returning to the temporal region on a level with the beginning of the incision The tissues are retracted sufficiently to allow the necessary openings to be made for the reflection of the bone flap The bone flap is then turned outwards The outer portion of the supra orbital ridge is removed in wedge shaped fashion, so that the fragment can be replaced without mechanical fixation The periosteum is freed from the roof of the orbit and the thin roof itself removed with rongeurs as far back as the optic foramen If necessary, a small opening may be made on the dura in order to allow cerebro spinal fluid to escape and thus permit of greater displacement of the frontal lobe With flat retractors the orbital contents are now displaced downwards and outwards, the frontal lobe still covered by the dura is elevated until a view of the optic nerve as it passes from the optic foramen to pass on towards the sella The dura is then incised in a horizontal direction about a centimetre above the base of the skull for a distance wide enough to admit the blade of a retractor and to expose the contents of the sella

This operation has been slightly modified by Elsberg, who makes the base of the flap in the mid line thus avoiding the visible vertical scar Elsberg also removes the orbital margin with the bone flap

No useful purpose would be served by describing in detail the more rarely performed operations We may state, however, that König's operation consists in splitting the soft palate, removing the posterior part of the hard palate, and so obtaining a direct view of the sphenoid through the mouth The sphenoidal sinus and sella turcica are then opened by the chisel

Chiari entered the nose by a paranasal incision and after exenterating the ethmoidal cells and retracting the eyeball outwards, reached the sphenoid cells, whilst Kahler has modified this technique so as to keep nearer the orbit This, to a certain extent, diminishes risk of infection from the nose, but the approach to the sella is somewhat oblique and lateral

STATISTICS

In considering the mortality statistics of the various routes of approach there are several sources of fallacy The extent of intracranial growth and amount of increase in intracranial pressure prior to operation have an important bearing on prognosis, and it is not fair to compare results of cases with marked general pressure symptoms with those where the growth is confined to the fossa We cannot judge the value of the methods by studying isolated cases done by different operators who are more prone to register successes than failures Therefore, so far as is possible, the following statistics deal with series of cases performed by various operators The most important available figures can be tabulated as follows —

Method	*Operator*	No of operations		Mortality	
Schloffer s nasal method	Eiselberg	16		4	= 25%
Submucous septal	Hirsch	26	132	4	12 = 9%
	Cushing	106		8	
Temporal route	Horsley	10	18	2	2 = 11%
	Cushing	8		0	
Fronto-orbital	Frazier	4	23	0	= 8 6%
	Cushing	16		1	
	Sargent	3		1	
Paranasal	Kahler	7	9	0	= 0%
	Chiari	2		0	
Palatal	Preysing	6		4	= 66%

It should be added that Cushing s 8 temporal explorations did not promise to give him a satisfactory approach without undue retraction of the temporal lobe, so with the exception of two cases the operation was not completed and should hardly be included in the statistics Hirsch excluded from his figures one case in which a fatal result occurred after operation, where the necropsy showed the presence of a local hydrocephalus and not a pituitary tumour.

CONSIDERATION OF METHODS OF OPERATION

Let us now consider the merits of the various methods

The nasal route of Schloffer with its various modifications (except the submucous) is fundamentally unsound The sella is approached crudely through the nasal cavities, which are usually teeming with microbes and often harbour foci of suppuration in the adjacent sinuses, open raw surfaces are left by the removal of the turbinates and septum which must take a long time to heal, and which are a constant danger of infection Added to this considerable deformity of the external nose may follow Moreover, von Eiselberg, the great advocate of this method, has to confess that a horrible odour emanates from the nose of those cases that recover (The modifications of West and Citelli, which traverse the nasal passage but only remove the posterior part of the septum, are open to similar objections, and the added one that the avenue of approach is very much more restricted) This *a priori* reasoning is borne out by operative facts as the table shows

Similar objections lie against the palatal method which traverses the septic post nasal space Here there is also likely to be some danger of aspiration pneumonia At any rate, Preysing's series of six cases is sufficient for us to condemn it

The method of approaching the sphenoidal sinuses through the ethmoid by an external incision (Chiari Kahler) has against it the same theoretical objections as stand against Schloffer's operation, and though Kahler has had some success it is too early yet to say much in favour of it It is certainly no better than the median submucous method

The temporal method has only been found practicable by one operator, who has a considerable mortality, and the records of those cases which have been published do not encourage us to hope much from this route

The Submucous Nasal Operation

If one is to approach the pituitary fossa through the sphenoidal sinuses it is clear that the only promising, one could almost say justifiable, method is the submucous approach of Hirsch or Cushing Especially in the hands of the latter, who adopts the sublabial incision, has this operation been attended by very little risk of meningitis In a personal communication received in January this year Professor Cushing writes that in the last 18 months he has performed 32 operations by the sublabial submucous method with only one death—a truly remarkable achievement

Hirsch in his first 26 cases lost only one case from meningitis, but two others recovered after severe septic trouble at the base of the brain, whilst in Cushing's earlier series meningitis occurred four times with three fatal results The experience of Cushing and of Sargent appears to indicate that there is greater risk of meningitis in operations undertaken by the submucous transsphenoidal method when the diagnosis has been mistaken or when the tumour has originated above the sella Nevertheless, there must always be a slight danger of meningitis even with the submucous operation inasmuch as the sphenoidal ostia open into the nose

The submucous method is one which requires special skill in working in such a confined space It has several special difficulties dependent on the variations in size and shape and relations of the sphenoidal sinuses, and even when the sella is opened the surgeon is working more or less in the dark, for he cannot see what relationship his inserted spoon bears to the third ventricle If the third ventricle is opened a cerebro spinal rhinorrhœa fraught with great danger of infection may ensue Although any existing pituitary bulge is likely to be increased by the advent of a neoplasm, still there are many cases in which no such bulge exists, and on several occasions operators (Cushing, Halstead, &c) have had to stop the operation and insert a metal clip for radiographic orientation purposes In children who have undeveloped sinuses it seems to be going out of one's way to seek trouble to adopt the nasal method If, however, the submucous nasal operation is adopted it would be a wise plan not only to study the X ray plate carefully, but also to make a preliminary sounding of the sphenoidal sinuses, a suggestion made by Blumenthal If the trans sphenoidal crest is shown in the X rays it will provide an absolute guide to the pituitary fossa when the sphenoidal sinus is opened

Facts in Support of Fronto orbital Method

In favour of the fronto orbital method are the facts that it provides an aseptic route, allows each step of the operation to be performed by the aid of sight, and does not necessitate much dislocation of the brain like the temporal method It is true that some œdema of the eyelid occurs after the operation, and that sometimes the eyeball may not be left quite on the same level as the opposite one This latter drawback should be avoided by care at the time of the operation The frontal sinus is sometimes in the way, but by previous X ray or transillumination one can estimate the size and avoid it at the time of operation, and if it is opened it may be temporarily plugged

An additional fact in favour of this method is that the primary enlargement of hypophyseal tumours is towards the brain, and the enlarged gland thus presents an easier object for attack By far the most common indication for operation in pituitary tumours is oncoming blindness (In the last 58 cases which Professor Cushing has treated since the publication of his Weir Mitchell lecture in June, 1914, all have shown visual disturbances from pressure on the optic chiasma) Since anatomy teaches that the chiasm is well above the roof of the pituitary fossa, and inasmuch as it is recognised that a large amount of pressure is necessary to interfere with visual conduction, it seems certain that nearly all cases which come to operation with visual symptoms must have a considerable intracranial extension This is confirmed by a study of necropsies I have not yet seen a post mortem record of any cases with eye symptoms in which the necropsy did not reveal a large intracranial extension of the growth

Of course, if the growth is primarily supra sellar most, if not all, operators would select the intracranial method It is often difficult to say whether the growth is supra or infra sellar Surely it is better, if possible, to relieve pressure upon the chiasma close to, rather than remote from, that structure

It is true those cases of acromegaly without optic symptoms, in which the gland though enlarged is confined to the sella, might reasonably be treated by the nasal route, but it is a little doubtful whether one should adopt an operation with an 8 per cent mortality for the ordinary symptoms of acromegaly

CONCLUSION

To sum up, we may say that there are two operations which have proved fairly satisfactory for approaching the pituitary fossa, the Hirsch Cushing submucous nasal method, and the fronto orbital method of Frazier Though it is not possible yet to decide finally between these, the opinion can be expressed that the fronto orbital route is more suitable in the great majority of cases In the three cases which the speaker has operated on this method has been adopted with success All three of these cases were almost blind before brought for operation In the first case a portion of an endothelioma was removed and the general condition improved, though the sight did not improve The third case obtained great improvement of vision after a cyst was evacuated The second case proved to be one of syphilitic meningitis, and though the patient said he was a little better after the operation there was no obvious improvement in his condition Now that the mortality of the operation has diminished surgeons can more readily urge that patients with oncoming blindness due to pressure on the chiasma should be treated by operation more early than is now the case An extended and more fully illustrated account of the whole subject will appear in the *British Journal of Surgery* in July

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CONTRIBUTIONS TO THE STUDY OF SHELL SHOCK

BEING AN ACCOUNT OF CERTAIN DISORDERS OF CUTANEOUS SENSIBILITY

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III[1]

IN my first communication on this subject I described three of the earliest cases of severe shell shock I had seen, which were characterised especially by defects of memory, vision, smell, and taste Among the large number of cases which have since come under my observation I have met (in about 25 per cent) with various disorders of cutaneous sensibility, some distinctive features of which form the subject of the present contribution

Over reaction and "Hyperæsthesia"

The following is a pronounced instance of general over reaction —

CASE 9 (Case number 227) —Stretcher bearer, aged 19, with 18 months' service, and 6 months' service in France Was seen by me on the day after admission to a base hospital. Four days before admission he had been "blown up three times by aero torpedo trench mortars," while attending to the wounded in the trenches during an enemy attack. He said that one had blown him in the air, that another had blown him into a dug out and that the third had knocked him down, but that nevertheless he continued his work of carrying away the wounded to the dressing station. Two or three hours later, after he had finished, he was resting in a dug out when "everything seemed to go black" (probably he had a hysterical fit") and he became "shaky," and had remained so ever since. He said that he had hardly slept for seven days before he "gave in' He appeared an honest courageous lad but was obviously in a very "nervous" condition making irregular spasmodic movements of the head arms (especially the right) and legs (especially the left) There were well marked coarse tremors and incoördination during voluntary movements of the arms He touched his nose with far greater uncertainty when his eyes were closed The lightest touch of cotton wool on the limbs or head provoked very lively movements, obviously he dreaded the next touch "I was always ticklish," he explained, "but never like this. I can't stand it, sir" A pin prick produced a series of most violent spasms, almost amounting to a convulsion He sweated considerably during examination. There was much rigidity in the legs, and so much spasm that a knee jerk was unobtainable until my second visit, the sixth day after admission Plantar stimulation gave a flexor response. He suffered from visual hallucinations of bursting shells, he also heard them when dozing

The patient improved considerably with rest and treatment but 17 days after admission, lying asleep in bed outside his tent in the sunshine, he woke to find himself being carried back in his bed owing to a sudden shower of rain. This brought about a recurrence of such terror that a special nurse was considered necessary that night On the next day he was still very "jumpy" and alarmed, even at the sound of a footstep, he complained of severe headache Three days later he had again improved and was transferred to England, where, after two months in hospital and one month's leave, he returned to light duty

Cases like this, of general sensori motor over-reaction, appear to be rare after shell shock. But I believe that they may be regarded as an extreme form of the far commoner condition of unilateral or otherwise more restricted "hyperæsthesia," and for this reason (based on considerations which will appear immediately) I place the word in inverted commas Such local "hyperæsthesia" was specially apt to occur over areas which were the seat of spontaneous (subjective) painful sensations Unilateral "hyperæsthesia" was combined in several cases with contralateral anæsthesia or hypæsthesia. In others it was sometimes difficult to be sure whether one side of the body was subnormally sensitive or whether the opposite side was supernormally sensitive, although as a rule the patient's "jumpiness" and muscular over reaction afforded a sufficient clue to the latter condition

The nature of the "hyperæsthesia"—Several cases of "hyperæsthesia" presented features recalling to my mind those which have been emphasised by Head and Holmes[2] in their observations on lesions of the optic thalamus, and which have been attributed by them to a loss of the inhibitory control normally exercised by the cerebral cortex over the activity of the thalamus They compare this loss of cortical control over the thalamus to the loss of cortical control over the bulb and cord, just as the latter manifests itself in muscular rigidity, increased reflexes, &c, so the former results in sensori motor and affective over reaction In such thalamic over reaction a cutaneous stimulus produces abnormal motor response, excessive tingling and diffuseness of sensation, and increased affective reaction of pain or pleasure

With the most careful avoidance of suggestion on my part, various patients suffering from local "hyperæsthesia" after shell shock have given me the following observations Cotton wool "tingles more,' "tingles and runs right up," "is more tingling," "tickles more,' "is more ticklish, 'itches more,' "is more itchy,' "gives me an awful feeling—a tingling tickle with an after-itch" A pin prick is "like an electric current, "more like an electric shock,' "stings like a bee, "shoots up the arm,' 'seems to run up more' (from foot to knee), "shoots more than usual up the leg and lasts longer as an after tingling," "is sharper and itches more"[3]

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[1] The first of these communications appeared in THE LANCET of Feb 13th 1915 p 316 and the second in the issue of Jan. 8th 1916 p 65

[2] Brain vol xxxiv 1911-12, pp 102-253 THE LANCET 1912 vol i., pp 79 144

As would be expected, such over reaction when limited to one side of the body usually made localisation of the spots touched on that side distinctly more difficult and more inaccurate than on the normal side No doubt the spatial threshold would have been raised, but I have not yet applied the compass tests to such cases

Clearly, far closer inquiry is needed to establish more than the superficial resemblance which is here indicated In view of the relation already recognised between emotion and, on the one hand, shock, and on the other, thalamic activity, such an inquiry would have especial interest Unfortunately (or fortunately, in relation to freedom from prejudice) the relation was not in my mind when these observations were recorded

As Head and Holmes observe, the paths of cortical control "come from all parts of the cortex to impinge on the thalamus" (p 179) No doubt in unilateral lesions of the optic thalamus many of the striking features observed are due to the more or less complete and abrupt *structural* severance of the thalamus of that side from the sensory areas of the cortex. But in the cases with which we are now dealing, the interruption, if it occurs, is of a *functional* character, and the cortical centres here deprived of their normal inhibitory action are situated far "higher" than those of which we have at present any topographical knowledge, acting, it may even be, not directly on the thalamus but on intermediate levels As they stand, the patients' replies indicate a sensory as much as an affective over reaction And in this connexion we may recall certain features of what Head and his fellow workers have called "protopathic" sensibility where one peripheral system of sensibility obtains full play, no longer controlled by the inhibitory influence of the higher ('epicritic') system—yet another instance of unleashed primitive sensibility

In none of their cases did Head and Holmes meet with a lowered threshold—i.e., *a true hyperæsthesia*—on the affected side, although the affective over reaction was throughout a characteristic feature The patient typically replied that a prick was less sharp and less plain over the affected side, although it hurt him more, and in several cases an actually higher threshold was found on that side

We have, therefore, to consider whether the 'hyperæsthesia' which is met with in certain cases of shell shock is the outcome of genuine increase in sensibility or whether it is not due to sensory diffuseness and increased affective response At first sight it would appear that this question could be settled by comparing, in hemi hyperæsthetic patients, the thresholds to pain or touch of the two sides But even had I had the opportunity of employing an algesimeter or von Frey's hairs in suitable cases, I am very doubtful if any accurate readings on the affected side would have been obtainable For in the case of pain, at least, it would always have been difficult to ascertain whether the patients were responding to the minimal sensation of pain or of touch or to the dreaded discomfort which they expected the stimulus to produce so 'jumpy' was their invariable condition Moreover it is quite conceivable that even if the *threshold* for pain and touch were found normal the *sensation* might, nevertheless, be abnormally strong after once that threshold had been passed—that is to say, when the stimulus was powerful enough to give rise to any sensation at all We might thus account for the fact that in several of my unilateral "hyperæsthetic" cases a warm or cool tube felt warmer or cooler on the affected than on the normal side

At all events, attention must be drawn to the fact that in several of my cases the condition of "hyperæsthesia," whatever may have been its nature, passed over into one of distinct hypæsthesia, without, however, losing all its features Thus, one patient, during a stage of mutism, had shown unilateral (left) "hyperæsthesia," which 12 days later gave place to diminished sensibility, whereupon he complained that "the prick is more numb on this (left) side and seems like a blunt point, but I feel it more, because it shoots more," and he averred that light touch "tingles up the left side, but it does not feel numb on the right as it does on the left"

In another case the state of "hyperæsthesia" over an aching, tender, "jumpy" abdomen (across which sandbags had been blown through a shell explosion) was accompanied by "dullness" to cotton wool over that area In yet another, previous "hyperæsthesia" of the right leg and foot ("it seems to jab all over") was followed by a "sleepified pins and needles feeling" in the right calf, but the prick still seemed "to run up more" than on the left side

Another case is noteworthy of loss of sensibility on one side, on which patches were found giving a sensation to pin prick of 'tickling like a hair, more ticklish than usual, felt over a wider area" than on the opposite side

Anæsthesia

But whatever be the cause and nature of the disorders of sensibility already considered, there can be little doubt as to the origin of the far commoner (2 1) condition of simple anæsthesia or hypæsthesia It is the outcome not of relaxed control but of dissociation or inhibition in the higher cortical regions How far suggestion plays a part in this process may be deferred for the present, I need only now remark that I was alive to the possibility of the anæsthesia being produced by medical investigation and took every precaution to avoid it

The loss of sensibility varied considerably in degree In the slightest cases it could only be demonstrated by comparing normal with abnormal regions of the skin surface Loss of pain was commonest, the prick of a pin being (*a*) merely dulled, or (*b*) recognised as the end of a match or pencil or as my finger or finger nail, or (*c*) not even felt as a touch Only in the severest cases was sensibility to deep pain lost

Defective power of localisation (because "I can't feel it so well') was often present over hypæsthetic regions Thermal sensibility was also found to be deficient, when there was pronounced loss of sensibility to light touch and pain, hot or cold stimuli appearing less hot or less cold over the affected areas The surface temperature, especially of the extremities, was sometimes very cold, and in one case a bilateral difference of body temperature accompanied a bilateral difference of sensibility to light touch and to cutaneous and deep pain yielding correspondingly different answers to moderately warm and cool stimuli on the two sides owing to the different 'temperatures of adaptation' thus arising

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[3] It [illegible] which [illegible] in Case [illegible]

Sometimes such anæsthesia or hypæsthesia arose immediately, especially in patients who had been buried, and in several of these cases, as we shall see, the loss of sensation occurred in regions which had become painful or numb after being hit by sandbags or other objects In other cases the onset occurred later, and was more widely distributed It then appeared to be the result of emotional stress (terror, horror, or anxiety) often uncomplicated by initial bodily pain, but almost invariably subsequent to a period of amnesia

Hemi anæsthesia

It was especially in such cases that the condition of hemi anæsthesia, so well known among hysterical patients, occurred The two following cases may be cited as instances of this condition (In the description of them, and henceforth in this article, the words anæsthesia and hypæsthesia will be used in their narrower sense of defective sensibility to *touch*, while analgesia and hypalgesia will be employed for defective sensibility to *pain*)

CASE 10 (Case number 126) —Rifleman, aged 33, with 12 years' service, and 5 months' service in France Was admitted to a base hospital for inquiry into his mental condition, he having wandered from his post without permission five weeks previously On admission he appeared to be in a state of semi stupor typical of the state following shell shock, unable to say why he had been *sent to hospital*, replying "I don't know" to nearly every question, and only slowly able to recall the names of his children, but able to give their ages He later admitted to past abuse of alcohol He complained of right frontal headache His right arm was very tremulous even when at rest, and the grip of the right hand was distinctly weak The knee-jerks were somewhat exaggerated, the plantar reflexes were flexor, and the abdominal reflexes were not obtainable He stood and walked naturally, no Rombergism His pupils reacted normally to light, no nystagmus

Two days later the patient seemed distinctly brighter On investigation of his cutaneous sensibility, he proved to be totally insensitive to pain and light touch on the right side of the face, tongue, and trunk, and on the right limbs Sensibility to deep pressure, as tested by Cattell's algometer on the thumbs, was completely absent on the right thumb but was normal on the left The compass test showed a normal spatial threshold on the left side, on the right side, of course, the threshold was unobtainable With eyes closed he distinguished a penny from a watch successively held in the right hand, terming the former "sharp," the latter "a piece of glass", he named them at once when held in the left hand The vibration sense was wholly lost on the right side, save on the right temple, where it was feeble as compared with the normal left side He failed to recognise in which direction his right hallux was moved and failed to appreciate passive movements of his right arm, nevertheless, he was able to imitate with his right arm the position in which his left had been placed. Sensibility to temperature not examined Tested for smell and taste, he showed complete right hemi anosmia and hemi agusia to all smells and tastes, left side, normal The left ear heard normally, the right was almost completely deaf The sound of a tuning fork placed on the vertex was localised in the left ear Otoscopic examination revealed no abnormality The right visual field was limited to the fovea, the left was normal The visual acuity of the right eye was 4/18, of the left 4/6 The right eye could only read Jaeger type No 14 whereas the left read No 2

CASE 11 (Case number 94) —Sergeant, aged 32 with 11 years' service and 8 months service in France Was admitted to a base hospital for inquiry into his mental condition, he having been charged with malingering For seven years before the war he had been teaching in an army school. On arrival in France he had at once found the heavy marching too much for him He had fainted several times during the retreat from Mons and during the fighting on the Aisne where he had reported sick for dysentery He stated that on that occasion he went to a field ambulance for two days and that owing to the bursting of shells, one of which struck the ground and knocked him into a ditch, the ambulance was forced to move for shelter into a cave Since then he had suffered from tremor which, he stated, was much worse when he moved his limbs or was addressed, or when he felt himself watched After discharge from hospital he had been employed for three months as despatch rider on a motor-cycle, but he lost his nerve for this work and was then given the duty of taking charge of fatigue parties Again he had found the work—"long distances and long standing"—too much for him Finally, the charge of malingering was preferred against him He had always been a total abstainer

The patient was a very nervous, delicate looking man, with widely dilated pupils, prominent eyeballs, a pronounced tremor of the right arm, and a pulse frequency of 102 No signs of goitre The tremor was markedly diminished when he was left alone, and was increased extending to the head, when he stood, and to the left arm when both arms were outstretched He could control the tremor to a certain extent He complained that he frequently woke at night, but said that he had no dreams He had noticed that he forgot the names and faces of people he had known and the earlier parts of books he read Memory tests demonstrated the defective state of his memory He said that he felt very despondent and exhausted after the railway journey to this hospital

Two days after admission the patient said that he had slept much better last night. Pupils much smaller next morning Pulse rate 75 Sensibility to light touch normal Sensibility to pain distinctly reduced over the whole of the right side of the head and body and over the right limbs He generally described a prick of the right arm or leg as the touch of my finger There was almost complete hemi anosmia and complete hemi agusia on the right side, peppermint, eucalyptus, and opium being only smelt by the left nostril, ammonia being termed "cold" to the right nostril, ether having a "faint" smell, while both were at once recognised by the left nostril Visual acuity right eye read two letters, left eye all letters at 5/5 Right eye read only a few words of No 1 Jaeger, and then the print blurred, left eye read this type easily Visual fields general limitation in right eye, normal in left eye Hearing not examined Patient transferred to England, where, after one month in hospital and two months' leave, he was discharged from the army as being no longer physically fit for active service He is still (eleven months have passed since he left France) very weak, physically and mentally, is subject to severe headaches, and becomes tremulous, especially in the right arm when tired

The Influence of Past History

About two thirds of the cases of disturbed sensibility were accompanied by spontaneous (subjective) disorders of sensation or by disorders of movement Local aching, tenderness, muscular over reaction, rigidity, and spasms were common accompaniments of "increase" of sensibility, similarly, local numbness and tremor, paresis, or palsy often went with loss of sensibility Into the details of these disorders it is hoped to enter on another occasion Such disorders could often be successfully traced to actual blows upon the region in question due to the impact of sandbags or other objects, or to the patient's fall after being lifted or pushed by the force of the concussion

In a considerable number of cases the site of the sensory disorder caused by the shock was determined by a previous history of pain in that region For example, one patient who had suffered four years previously from 'ruptured kidney with blood in the urine" after a football match complained of pain in his 'back and kidneys' after being buried by a shell Another, who on admission complained of pains in the back when he breathed, gave a history of severe pleurisy from which he had suffered 12 months previously Yet another, who after being lifted by a shell began to suffer from such pains in the left lower costal region and of pain in the left leg, recalled that he had had pleurisy on that side many years ago and that a piece of glass once entered his left leg, from which, he believed, it had never been removed

In relation to the natural question as to how far the earlier experience may be actually revived in consciousness the following case deserves mention —

CASE 12 (Case number 452) —Private, aged 26, with 11 months service and 1 month's service in France Was admitted to a base hospital on the day after receiving a shock. The concussion produced by a shell had caused the dug out in which he was standing to collapse The props gave way and a beam hit him on the left side of his face (he pointed to a bruise on the face) It forced him forwards to the ground on his right side and pinned him there, at the same time a piece of corrugated iron fell on the left side of his back and his right leg became pinned by a cross beam which fell on the back of his thigh He did not lose consciousness but was merely dazed "I had about three tons on top of me," he explained, "one of my mates had both legs broken and the others were badly shook up The rest of the platoon dug us out Two men helped me to the dressing station He had been able to walk since but complained that he had a pain in the right groin and that his right knee gave way He was quite certain that about 15 minutes after the accident he told 'one of the other fellows' that he had "no feeling" in his right thigh His medical officer did not arrive until about half an hour later This feeling of numbness' (as he calls it) increased he says, until the day before my first visit when the right thigh was found to be totally analgesic to the level of the upper margin of the patella save for a narrow strip in the mid line on its posterior aspect Since then the "numbness feeling" of the thigh had improved and correspondingly I found that whereas the thigh was now generally hypæsthesic and hypalgesic over its anterior surface the only area of complete anæsthesia and analgesia was on the outer side of the lower half the posterior surface having regained its normal sensibility The patient explained that three years ago he had been buried 4 feet deep in a brickyard beneath a heap of clay which fell upon him I felt it most" he said 'in the right leg I fell face downwards, like this time My thigh was stiff and sore not numb as it is this time The back of it got black and blue He admitted that the present accident *immediately* reminded him of his previous experience

There was slight weakness of the lower facial muscle on the left side of the left orbicularis palpebrarum and of the arms but no tremors nor any disturbance of sensibility on the face arms chest back or abdomen The left buttock, across which a plank fell showed diminished sensibility to cotton wool ("it feels number') while a prick felt like a match until the point was inserted deeply when it was recognised as a prick but the pain was duller than over the right buttock Sensibility to warmth and coolness and to the vibrations of a tuning fork was diminished over the right thigh especially over the anæsthetic and analgesic area where sensibility to deep pressure and to deep pain was also very markedly diminished No threshold could be obtained over this area with the compass tests The visual fields and taste and smell seemed unaffected The corneal and conjunctival reflexes were diminished No jaw jerk was obtainable the palatal pupillary abdominal and plantar reflexes were normal A knee jerk was just obtainable with the aid of reinforcement on the left side but not on the right Three days later the left buttock had regained its sensibility and the small area of total cutaneous anæsthesia and analgesia on the right thigh had become one of hypæsthesia and hypalgesia with corresponding improvement in the sensibility of the rest of the thigh The patient was now up and feeling very much stronger He was sent to a convalescent camp

Even in cases where there could have been no actual hurt from the effect of the shock the subjective disorders produced could occasionally be elucidated by recourse to the previous history of the patient For example —

CASE 13 (Case number 3[illegible]) —Private, aged 2[illegible], with 1[illegible] months [illegible] service in France Was [illegible] on the day after admission Two nights before my visit he had been out in a wood getting timber, when a shell came falling at some distance, about a hundred yards from him He said he would not have minded it had it not been for the dead lying in the wood, he having just picked up a human head which in the dark he had mistaken for a piece of wood The shell did not knock him down He fell among the dead and remembered no more until he found himself running out of the wood whereupon he again lost consciousness on recovering which he found two stretcher bearers helping him, with whom he returned

The patient was a big burly fellow He complained of pains in the back On questioning him, he told me that he had had exactly the same pain 18 months previously when he was hit in the back while at work in a coal mine, and had been obliged to rest for 14 days

It is clear, then, that such past injuries and diseases had not passed away without leaving a "memory' behind them, ready to be awakened, not necessarily with recognition, on a subsequent shock to the mental system I may add that I have met with similar revivals of other past disorders after shell shock

Spontaneous Spread of the Disorder

In many cases (e g, Case 12) the anæsthesia spontaneously cleared up, without any suggestion and despite occasional examination But in a few instances evidence was forthcoming of a gradual spread of the subjective sensory disorder and an increase of the insensibility to pain after its first onset For example —

CASE 14 (Case number 129) --Stretcher bearer, aged 44 with 11 years service and 2 months service in France Was admitted into a base hospital and seen by me there eight days after reporting sick He stated that three days before this while sheltering in a cellar, a shell jammed the door and that poisonous fumes from it entered the cellar Later in the day in another cellar he was blown off his seat by a shell and his 'surgeon and five men got laid out' That day and the two following days he was continuously shelled and he worked at the wounded without any rest,' afterwards returning to his regiment Then he lay down but on waking found himself useless in the left arm as if there was 'something wrong with the circulation it 'feeling numb and cold This persisted, but *the numbness had since spread* to the *legs especially* the left He complained of continual tingling in the terminal joints of the fingers of the left hand There was distinct *hypalgesia* over both forearms and hands, especially on the left limb, over the dorsum of the left hand there was total analgesia.

Two days later the patient said 'I can now feel articles I am touching I couldn't before They are only numb now in the early morning The tingling comes on when the numbness is passing off' But on the same day the hands and forearms showed a *total loss of sensibility* to pain everywhere save over a small area on the flexor surface just below the elbow joint

The Effects of Protracted Examination

Improvement —In the case just narrated the second occasion of examination showed a more severe loss of sensibility to pain than had been found on the first Often, however, especially in those cases in which a spread of defective sensibility had occurred, a distinct improvement could be brought about by examination provided that it was long enough continued at any one sitting Thus one patient, after being blown over by a shell and later frightened by another, developed hypæsthesia and hypalgesia over the left side of the chest down to the nipple line over the left arm down to the elbow, and over the forehead especially on the left side The first few pin pricks applied to his face were unfelt the next were described as my finger nail but finally they produced a definite sensation of pricking pain On the following day he felt far less shaky his hands had almost lost their

Sometimes such anæsthesia or hypæsthesia arose immediately, especially in patients who had been buried, and in several of these cases, as we shall see, the loss of sensation occurred in regions which had become painful or numb after being hit by sandbags or other objects In other cases the onset occurred later, and was more widely distributed It then appeared to be the result of emotional stress (terror, horror, or anxiety) often uncomplicated by initial bodily pain, but almost invariably subsequent to a period of amnesia

Hemi anæsthesia

It was especially in such cases that the condition of hemi anæsthesia, so well known among hysterical patients, occurred The two following cases may be cited as instances of this condition (In the description of them, and henceforth in this article, the words anæsthesia and hypæsthesia will be used in their narrower sense of defective sensibility to *touch*, while analgesia and hypalgesia will be employed for defective sensibility to *pain*)

CASE 10 (Case number 126) —Rifleman, aged 33, with 12 years' service, and 5 months' service in France Was admitted to a base hospital for inquiry into his mental condition, he having wandered from his post without permission five weeks previously On admission he appeared to be in a state of semi stupor typical of the state following shell shock, unable to say why he had been sent to hospital, replying "I don't know" to nearly every question, and only slowly able to recall the names of his children, but able to give their ages He later admitted to past abuse of alcohol He complained of right frontal headache His right arm was very tremulous even when at rest, and the grip of the right hand was distinctly weak The knee jerks were somewhat exaggerated, the plantar reflexes were flexor, and the abdominal reflexes were not obtainable He stood and walked naturally, no Rombergism His pupils reacted normally to light, no nystagmus

Two days later the patient seemed distinctly brighter On investigation of his cutaneous sensibility, he proved to be totally insensitive to pain and light touch on the right side of the face, tongue, and trunk, and on the right limbs Sensibility to deep pressure, as tested by Cattell's algometer on the thumbs, was completely absent on the right thumb but was normal on the left The compass test showed a normal spatial threshold on the left side, on the right side, of course, the threshold was unobtainable With eyes closed he distinguished a penny from a watch successively held in the right hand, terming the former "sharp," the latter "a piece of glass", he named them at once when held in the left hand The vibration sense was wholly lost on the right side save on the right temple, where it was feeble as compared with the normal left side He failed to recognise in which direction his right hallux was moved, and failed to appreciate passive movements of his right arm, nevertheless, he was able to imitate with his right arm the position in which his left had been placed. Sensibility to temperature not examined. Tested for smell and taste, he showed complete right hemi anosmia and hemi agusia to all smells and tastes, left side normal The left ear heard normally, the right was almost completely deaf. The sound of a tuning fork placed on the vertex was localised in the left ear Otoscopic examination revealed no abnormality The right visual field was limited to the fovea, the left was normal. The visual acuity of the right eye was 4/18, of the left 4/6 The right eye could only read Jaeger type No 14 whereas the left read No 2

CASE 11 (Case number 94) —Sergeant, aged 32, with 11 years' service and 8 months service in France Was admitted to a base hospital for inquiry into his mental condition, he having been charged with malingering For seven years before the war he had been teaching in an army school. On arrival in France he had at once found the heavy marching too much for him He had fainted several times during the retreat from Mons and during the fighting on the Aisne where he had reported sick for dysentery He stated that on that occasion he went to a field ambulance for two days and that owing to the bursting of shells, one of which struck the ground and knocked him into a ditch, the ambulance was forced to move for shelter into a cave Since then he had suffered from tremor which, he stated, was much worse when he moved his limbs or was addressed, or when he felt himself watched After discharge from hospital he had been employed for three months as despatch rider on a motor cycle, but he lost his nerve for this work and was then given the duty of taking charge of fatigue parties Again he had found the work—"long distances and long standing"—too much for him Finally, the charge of malingering was preferred against him He had always been a total abstainer

The patient was a very nervous, delicate looking man, with widely dilated pupils, prominent eyeballs, a pronounced tremor of the right arm, and a pulse frequency of 102 No signs of goitre The tremor was markedly diminished when he was left alone, and was increased, extending to the head, when he stood, and to the left arm when both arms were outstretched He could control the tremor to a certain extent He complained that he frequently woke at night, but said that he had no dreams He had noticed that he forgot the names and faces of people he had known and the earlier parts of books he read Memory tests demonstrated the defective state of his memory He said that he felt very despondent and exhausted after the railway journey to this hospital

Two days after admission the patient said that he had slept much better last night Pupils much smaller next morning Pulse rate 75 Sensibility to light touch normal Sensibility to pain distinctly reduced over the whole of the right side of the head and body and over the right limbs He generally described a prick of the right arm or leg as the touch of my finger There was almost complete hemi anosmia and complete hemi agusia on the right side, peppermint, eucalyptus, and opium being only smelt by the left nostril, ammonia being termed "cold" to the right nostril, ether having a "faint" smell, while both were at once recognised by the left nostril Visual acuity right eye read two letters, left eye all letters at 5/5 Right eye read only a few words of No 1 Jaeger, and then the print blurred, left eye read this type easily Visual fields general limitation in right eye, normal in left eye Hearing not examined Patient transferred to England, where, after one month in hospital and two months' leave, he was discharged from the army as being no longer physically fit for active service He is still (eleven months have passed since he left France) very weak, physically and mentally, is subject to severe headaches, and becomes tremulous, especially in the right arm when tired

The Influence of Past History

About two thirds of the cases of disturbed sensibility were accompanied by spontaneous (subjective) disorders of sensation or by disorders of movement Local aching, tenderness, muscular over reaction, rigidity, and spasms were common accompaniments of 'increase" of sensibility, similarly, local numbness and tremor, paresis, or palsy often went with loss of sensibility Into the details of these disorders it is hoped to enter on another occasion Such disorders could often be successfully traced to actual blows upon the region in question due to the impact of sandbags or other objects, or to the patient's fall after being lifted or pushed by the force of the concussion

In a considerable number of cases the site of the sensory disorder caused by the shock was determined by a previous history of pain in that region For example, one patient who had suffered four years previously from 'ruptured kidney with blood in the urine' after a football match, complained of pain in his 'back and kidneys after being buried by a shell Another, who on admission complained of pains in the back when he breathed, gave a history of severe pleurisy from which he had suffered 12 months previously Yet another, who after being lifted by a shell began to suffer from such pains in the left lower costal region and of pain in the left leg, recalled that he had had pleurisy on that side many years ago and that a piece of glass once entered his left leg, from which, he believed it had never been removed

In relation to the natural question as to how far the earlier experience may be actually revived in consciousness the following case deserves mention —

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Deterioration —On the other hand, certain cases in the course of prolonged examination showed deterioration in sensibility Thus in one patient the bilateral differences became more marked, a state of hypalgesia becoming apparently *one of analgesia, the subject being at length unable to* distinguish (almost solely on the affected side) between the head and the *point of* a pin This deterioration often appeared to result from the onset of a "jumpy," "nervous" condition, a state of mental *confusion occasioned by the examination*

Perseveration —Yet another change in the answers obtained during investigation was the outcome of perseveration—i e, of persistence of response In one patient, for example, who had suffered from *stupor and mutism consequent* on shell shock, the flexor surface of the *left forearm* and palm were "hyperæsthetic" and "hyperalgesic," and the left side of the forehead and *chest* were "*hyperalgesic*," while over the back of the neck and over both scapulæ (where the *patient complained of pain*) a state of complete anæsthesia prevailed This order was that in which the examination was at first carried out Yet when later the applications of cotton wool and pin were begun over the back of the neck and shoulders and extended on to the chest, the condition of *anæsthesia* was found to spread over *both sides of the chest* down to the nipples, the left arm remaining in its former condition These three features, of improvement through experience, of deterioration through mental confusion, and of perseveration, are well exemplified in the two following cases

CASE 15 (Case-number 332) —Private aged 23, with 5 years' service and 5 months' service in France. Was seen by me the morning after admission to a casualty clearing station, having been buried a few hours before admission by a shell while he was in a dug out He said that he had come to himself shortly before my visit and had no recollection of being moved here He was alone in the dug out when it was shelled He admitted to having "*felt very bad lately*" owing to the depth of water in the trenches and was recently kept back for two or three days for observation by his regimental medical officer before being sent back to the trenches His general appearance I find recorded in my notes was that of one 'who has control over a stormy sub-surface which might at any time get the upper hand and result in an hysterical attack." He complained of headache and of buzzing noises in the ears The pulse rate was 96 The visual fields were distinctly restricted The palatal reflex was absent A jaw jerk was present The patellar and plantar reflexes were normal He stood unsteadily especially swaying when his eyes were shut He showed no tremor of the hands or tongue His left arm was anæsthetic to light touch He could not distinguish the point from the head of a pin applied to his left arm When it was pricked he said that my finger was pressing The right arm showed normal sensibility, but at first over the right biceps he momentarily carried over the immediately preceding answers of the opposite side unable but only for a few seconds, to distinguish the head from the point of a pin On a subsequent re-examination of the left arm continual pricking resulted in a recovery of sensibility to pain over the flexor surface of the forearm, and at length the back of the hand became sensitive to light touch, but on the extensor surface of the forearm and elsewhere on the limb nothing whatever was felt The forehead and cheeks were rather more sensitive to light touch on the left side, but pain was felt equally on the two sides At first he said that the left side of the chest was more sensitive to prick than the right, and then he carried this difference over to the upper arm until the forearm was reached *Whereupon the difference* of sensibility became reversed, the *right forearm alone* feeling the pain as before *This reversal to his previous* answers persisted as the pricks were *continued* upwards over the upper arm, until *on re examination* of the chest he declared that there was *no difference* between the two sides either *for* light touch *or for* prick The rest of the body *showed no disturbance of sensibility*

CASE 16 (Case number 46) —Corporal, aged 39, admitted in a very depressed condition into a base hospital after working under shell fire at barbed wire entanglements, complaining of noises in the head, pricking pains in the body unsteadiness of the legs, general fatigue, irritability, and loss of confidence and want of interest in his work The patient was a big robust-looking man, showing very tremulous movements of the arms and legs especially during movement His gait appeared normal but he stood very unsteadily with his eyes closed "I m *strong enough* ' he explained, "but only a bit shaky *My legs have been* very unsteady, *especially* when *someone is looking at me They must have thought me drunk at times*" He showed a *pronounced inability to touch* any prescribed part of the body with his *eyes shut His* head and tongue were very tremulous The pupils were equal and reacted normally The knee jerks were exaggerated, no ankle clonus, *plantar* responses flexor The patient volunteered the statement that "when I stand, *it feels like standing on* cotton wool ' His soles proved to be totally insensitive to light touch and to pain, sensibility to deep pressure was retained But further trials especially when aided by comparison with the effects of stimuli applied to the dorsum of the feet resulted in the gradual return of right answers Tested with warm and cool tubes, he at first called both the tubes "cold" when applied to the soles, and he gave generally wrong answers over the dorsum of the feet often wrong answers over the legs and occasionally wrong answers over the thighs Yet over the arms he was invariably correct, and when *stimulated* to attend by such injunctions as "Now, O——, attend well you know what this is,' he gave correct answers over the legs and dorsum of the feet and usually over the soles But in the course of further examination his legs became very markedly tremulous, "a silly childish fear came over me (as he explained it) his hands began to ' feel cold and clammy and at the height of this ' attack, he replied ' hot or "cold,' even when the tubes were not being applied at all *to his skin* evidently suffering from hallucination So too a *few hours later* during reinvestigation of the *sensibility* of the *soles of* the feet to pain he finally repeated "You re pricking me," when the pin s head was applied instead of its point When the compasses were applied to the dorsum of the *left foot* (sometimes two points sometimes one point being presented in *irregular* order) his answers to the two point touches *when separated by* 4 cm, were all correct At 3 5 cm *he made one* error in ten two point touches At 3 cm *his answers became very* incorrect Returning now to the *distances of 3 5 cm* and of 4 cm I obtained extremely incorrect *replies* for the *two point* touches, at 5 cm his replies were *correct for the* two-point touches but he made *occasional mistakes in the one point* touches (as he had done at the outset) when the *two points were separated* by 4 cm whereas he had made none *for the one* point touches when the two points were *separated by distances* of 3 5 cm and 3 cm

I have seen several other cases showing the effects of perseveration improvement with practice, and deterioration through *confusion* inattention, or *fatigue* In all the cases showing perseveration and *in all* showing improvement with practice there was *evidence of* exhaustion preceding the shock Now *it is especially in such* cases that we should expect to find a state of instability in those portions of the central areas which have been functionally affected by the shock, the inhibition or the loss of control being at one moment manifest, at another inappreciable, according to the conditions of examination In these and in other cases it is conceivable that certain cutaneous areas are hence in a state of "hesitating" sensibility, on a knife edge, as it were, ready to be influenced in one or other direction by the past replies given to stimuli applied elsewhere, by the summation effects of stimuli, by unconscious suggestion on the part of the investigator, or by express counter suggestion on his part Thus we may account for the occasionally wide variability of replies, with which I have met, made by the same patient (1) at any one sitting (one apparently honest fellow, for example, when brought to book for his inconsistent replies retorting, "All I can say is what I feel"), (2) at different sittings with the same, or (3) with a different, investigator

None of the cases showing deterioration in replies through confusion, hallucination, inattention, or fatigue was under treatment for purely the immediate effects of shell shock Two of the cases have been already described (Cases 11 and 16), another was that of a sergeant who had previously been invalided for overwork to England, three months after his return from which he fell to the ground during a bombardment when two guns close to him were blown out of action, since then his legs had been feeling weak, but he had "managed to keep going on light duty" for two months before he finally reported sick and came under my observation

Such phenomena are especially liable to occur when to the effects of shock conditions of previous long continued anxiety and nervous exhaustion are superadded That is to say, they imply a certain instability of cerebral activity, and in this connexion it is noteworthy that the liability to mental confusion, inattention, fatigue, and hallucination and the tendency to perseveration, occurring in the above mentioned cases, are the very symptoms observed by Head and Holmes[4] as the effects of cortical injuries

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[4] Op cit

MENTAL AFTER CARE ASSOCIATION —The annual meeting of this association which assists poor persons convalescent or recovered from institutions for the insane was held on March 1st at Dr Williams's Library Gordon Square by invitation of Dr Henry Rayner, chairman of the association The opening address was given by the Right Rev Bishop Ryle Dean of Westminster who presided Dr Rayner read the report showing a satisfactory increase of the work during 1915 and also the improved financial position of a charity which does work untouched by any other philanthropic body Several typical cases were quoted which proved the varied scope of the work and the untiring efforts of the staff who labour to help those who have been mentally afflicted to make a fresh start in life The council expressed deep regret at the resignation through ill health of Mr H Thornhill Roxby who had acted as secretary for 23 years Miss Vickers who had worked as assistant secretary for some years was appointed to succeed him Dr [illegible] Smith seconded the adoption of the report and Mr A O Goodrich chairman of an Asylums Committee of the London County Council spoke on the value of the work from the point of view of the Asylums Board The re[illegible] was proposed (in the unavoidable absence of [illegible]) by Dr R Armstrong-Jones medical superintendent of Claybury Asylum and seconded by the Rev F H A Hawkins one of the founders of the association

SOME NOTES ON THE TREATMENT OF THE TURKISH WOUNDED FROM THE SUEZ CANAL

BY FRANK COLE MADDEN, M D MELB , F R C S ENG ,

PROFESSOR OF SURGERY EGYPTIAN GOVERNMENT MEDICAL SCHOOL
SENIOR SURGEON, KASR EL AINY HOSPITAL, CAIRO

EARLY in January, 1915 the long threatened invasion of Egypt by way of the Sinai peninsula appeared to be materialising, and preliminary arrangements were at once made in Cairo to provide for the Turkish wounded, whom it was expected would arrive in considerable numbers from the Suez Canal Kasr el Ainy was selected as the general base hospital, and by limiting the local admissions to accidents and urgent cases several wards were at once left available for any wounded that might be sent on to Cairo[1] As it became increasingly evident that an attempt would certainly be made to break through the line of defences on the Canal, the hospital was subsequently cleared of all its patients and everything prepared for the reception of wounded at a moment's notice

The most severe fighting took place on Feb 2nd and 3rd, and after the wounded had been collected by the Royal Army Medical Corps attached to the British forces, they were attended to at the clearing hospitals at Port Said, Ismailia, and Suez, and thence despatched by hospital train to Cairo On their arrival they were brought to the hospital by the excellent Australian motor ambulance fleet A careful examination was then made of every individual, and notes of their present condition taken by the registrars at the dictation of the surgeon in charge, who at once proceeded to take the necessary measures for their appropriate treatment

The men generally were in good condition, and not by any means starving as had been anticipated It had been a record year in the peninsula with much rain and plenty of green feed for camels and transport animals, and water in abundance in the valleys The food consisted largely of a hard satisfying biscuit and the men, though very dirty and dusty and travel stained, showed very few signs of having encountered any real hardships on their trek across the desert, which on this occasion belied its reputation and was intersected with beautiful green valleys and "blossomed like the rose" Their equipment, too, was wonderfully complete and practical Each man carried a book of identification, a "housewife" (containing needles, thread, buttons, &c), soap, tooth brush, and even a small copy of the Koran They were also provided with first field dressing Many of them being recruited from Syria spoke Arabic to some extent, and most of the officers had some knowledge of French and acted with some of our own students as interpreters in Turkish In this way we had very little difficulty on the question of language The men were all very grateful for the attention they received and we never had the least trouble with them *from a disciplinary* point of view his train journey and subsequent transport, he had all the signs of septic general peritonitis Operation demonstrated the peritoneal cavity to be full of fæces, recent food, and pus, there was a large perforation of the small intestine, which was resected, and probably several other perforations also, and a large quantity of decomposing blood The patient lived for 36 hours after drainage, but his case was hopeless from the beginning Another man had the mark of a bullet over the splenic area, but was in a condition of such extreme shock that nothing could be attempted before he died The necropsy showed no sign of bullet wound of the abdomen and death was entirely due to shock Several other bullet wounds, individually not serious, were found in other parts of the body, but the peritoneal cavity and its contained viscera were entirely free from any wound

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[1] It is interesting to note that this is not the first occasion in history that the Kasr-el-Ainy has been commandeered for military purposes The French turned it into a military hospital during Napoleon's invasion of Egypt ([illegible]) and here the great Larrey who was Napoleon's chief surgeon studied an epidemic of fever ophthalmia [illegible] and many other diseases in 1800 Later in 1825 Clot Bey an [illegible] came from Grenoble and was surgeon-in-chief to Mohammed Aly Pasha's army and after first establishing a hospital near Abu Zabel (close to the present wireless station) transferred it to Kasr-el-Ainy in 1837 and continued it as a military hospital for some years afterwards (*Sandwith History of Kasr-el-Ainy* A D 1466-1901)

Wounds of the shoulder and upper limb —At one stage in the fighting a number of Turks were caught between two rows of trenches disposed almost at right angles to each other and, being thus enfiladed, many received oblique wounds across the shoulders or through one side of the chest and the upper arm Among these cases the most interesting may be briefly mentioned One man was hit, possibly by a shrapnel bullet, in the middle line of the spines behind The bullet apparently split, and a deep track ran outwards above each spine of the scapula, and fragments of fractured scapula were found in each wound After opening up the tracks freely and applying constant fomentations the primary sepsis was controlled and the case did very well In several cases the acromion was fractured and in one of these the bullet traversed the chest beneath and fractured two ribs on the same side in its exit One bullet missed all the bones about the shoulder, but evidently caught a part of the brachial plexus, with paralysis of the left deltoid and biceps Fractures of the upper end of the humerus were best treated by a pad in the axilla and fixing the arm to the side of the chest without the use of any splint When lower down in the shaft of the bone, whether simple or compound, we had our best results and made the patient most comfortable with Major Robert Jones's rectangular or straight arm splints Only one case of compound fracture of the humerus was plated, and it served as an excellent object lesson as to how not to do it, for the bone was found so comminuted and brittle that no screws would hold and eventually a wire had to be placed round the fragments No further operations of the kind were performed and this was only done in the hope of temporarily holding the fragments in position Extension on the straight arm splint did all that was required, and the result was a very good one With these two splints and the occasional use of a Middeldorf splint with extension we were able to deal with all our cases quite satisfactorily

One case of a deep shrapnel wound in the substance of the pectoralis major was interesting because of the association with it in the same patient of a long bullet track in the thigh, which had opened up the intermuscular planes for a considerable distance, though the bullet itself was removed near the upper end of the track This was evidently an instance of splitting up along fascial planes between muscles by the cone of air projected in front of the bullet

Some bullets were lodged in the axilla, especially along the axillary border of the scapula and these cases showed the fallacies in X ray photography in attempting to localise a bullet from a single plate In one case of this kind the bullet appeared to be at the upper end of the axillary border, but was found firmly imbedded between the axillary artery and vein in mid axilla

Wounds about the elbow varied much in severity Perforation of the lower end of the humerus generally led subsequently to impairment of movement of the elbow joint and was very painful The olecranon and the head of the radius did not escape, but with these injuries the end results were fairly satisfactory Fractures of the bones of the forearm were common, but presented no special peculiarities except for the explosive effects sometimes produced Two cases in which a bullet completely traversed the wrist did very well, with some swelling of the joint, but with very good and ultimately perfect movement The metacarpal bones were often severely smashed In the worst cases the victim was actually holding the end of the rifle when it was fired

Bullet wounds of the pelvis and lower limb —Whenever a bullet is localised in the pelvic cavity and is doing no harm it is best left alone This in our early days, was brought home to us when we were tempted to make futile search for such a phantom When a buried bullet is exercising pressure on a nerve, or producing pain or disability from its presence in proximity to important structures, an *attempt*—and I use this word advisedly—should be made to *remove* it after having its position localised by the best means at disposal It will not always be found even then, and care must be exercised lest this "carnivorous" surgery be pushed to a dangerous extent One of the best of our cases was that of a penetrating wound in which the bullet had gone through one buttock, straight across the pelvis, and out through the other Blood and fæces were draining from each wound, and an examination of the rectum showed a large tear in each lateral wall The external wounds were well opened up and drained with tubes and a large tube was placed in the rectum, extending well beyond the wounds in the wall The patient was then put to sit in a bath for some hours at a time and did well, but had much pain in the rectum. This was at once relieved when the external sphincter was divided, and he continued to do well and recovered completely The question of an inguinal colotomy was discussed, but improvement was so rapid after the division of the sphincters that nothing further was necessary

Two cases of deep wounds into the iliac fossa, which fortunately were extraperitoneal, did well when the wounds were opened up and allowed to drain of themselves without a tube, but with a light packing of gauze soaked in balsam

Some very extensive fractures of the femur were met with In a certain number the wounds healed without any sepsis, and a Thomas's knee splint was then applied with fixed extension and proved most satisfactory, even in cases where there was considerable comminution In compound cases this also proved to be the most satisfactory splint, both before and after operation Free incisions were made whenever there were any threatenings of gangrene or sepsis, and only the very much splintered and completely separated pieces of bone were removed One patient died from gangrene and another from virulent sepsis The best case of the series was one in which there was great comminution, the bone being splintered to such an extent as to give the sensation of emphysematous crackling This on investigation by incision turned out to be caused by the presence and rubbing together of tiny pieces of broken bone in a bed of blood clot Nearly three inches of the pulped shaft of the femur was removed, but fortunately a long splinter of bone projected from each fragment and nearly touched posteriorly By free drainage fixation on Thomas s knee splint, and repeated packing with the balsam dressing an excellent result was obtained and quite a presentable femur remained All cases in the shaft of the bone were treated on these principles and open splints, more particularly Hodgen's, Mothersole s, interrupted Bryant s, and, better than all, Thomas s knee splints, were called upon In difficult cases prolonged and sufficient extension was most essential In fractures of the lower end of the bone much the same tactics were employed, and in one case with a penetrating wound of the knee joint frequent irrigation with cyllin lotion proved very satisfactory

Injuries to blood vessels were conspicuous by their absence, the only one of any importance being that of a very large hæmatoma of the thigh, which eventually had to be opened and the profunda femoris tied The hæmorrhage here had been very extensive, and unfortunately the case terminated fatally shortly after the operation

One other case of compound fracture of the tibia and fibula became very septic and developed a traumatic aneurysm of the anterior tibial artery which rapidly increased in size and began to bleed Before anything radical could be done emphysematous crackling occurred and a rapidly spreading and fatal gangrene supervened A case of perforating wound of the tibia became acutely septic and ended in a very severe septic dysentery, and finally general septicæmia which resisted all treatment

We had one successful case of gangrene in a fractured tibia and fibula in which crackling came on quite unexpectedly and this was saved by very prompt and vigorous incisions drainage and cyllin irrigations Most cases of this variety of gangrene however once the process had really set in were rapidly beyond all surgical treatment

Injuries to nerves were uncommon the posterior tibial and the external popliteal being the only two nerves involved except for one case of ulnar concussion

Wounds of the metatarsal bones were very rare Penetrating wounds of the larger tarsal bones were very painful and became very septic probably from the large amount of soft cancellous bone liable to infection Especially was this the case in wounds of the heel Apart from these slighter injuries there were several very severe and septic smashes of the foot opening up the ankle joint Two of these required amputation for advancing sepsis and among them were two fatal cases

In all 210 cases were admitted and of these 102 were subsequently discharged to the prisoners camp and would have been fit for duty When at a later date the accommodation was required for British wounded from the Dardanelles the work of caring for the Turkish wounded was taken over by the Egyptian Red Crescent Hospital, who have done excellent work throughout 63 cases were transferred to this hospital and nearly all of these were considered unfit for further duty Of [illegible] cases the patient died during a [illegible] of operation

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THE TREATMENT OF HÆMORRHOIDS BY INJECTION

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INTEREST in this valuable method of treating internal hæmorrhoids was reawakened about a year ago by an article by Sir James Goodhart,[1] in which the advantages of this treatment were extolled and a lurid (not to say biased) glare was thrown upon the evils of the more radical operative treatment, stress being laid upon the occasional failure of the latter A subsequent series of articles[2] by various rectal surgeons served to put the advantages and disadvantages of the two methods of treatment into a truer perspective In spite of the prominence given to the subject in this way, I find that the majority of medical practitioners are still ignorant of the fact that there is such a thing as the treatment of piles by injection, that the general belief is that the mild cases of piles are to be treated palliatively by local applications, laxatives, diet, &c , and that when a patient's life is made a misery to him in spite of this treatment, the only thing left for him is operation—a proceeding of which the average patient has a quite disproportionate horror

Since I have had the advantage of acting as surgeon to out patients at St Mark s Hospital at the beginning of the war, a very large number of cases of hæmorrhoids of all degrees of severity have passed through my hands At first I practised injection only on what may be described as medium cases, in which there was very moderate and occasional bleeding, slight prolapse which was spontaneously reducible, slight pain during defæcation, &c The number of beds at the hospital is very limited, and the war has caused increased pressure upon them , the result was that the list of hæmorrhoid cases awaiting admission was of considerable size and many cases that I had considered needed operation were waiting sometimes months for a bed and were suffering from perhaps moderately severe hæmorrhage week after week, or from other troublesome symptoms which ordinary "palliative' treatment failed completely to relieve I was led by this to try the injection treatment on more severe cases and found that in an enormous majority of them all symptoms ceased like magic after a few injections, although in the more severe cases the piles were still seen on examination with the sphincteroscope Still more surprised was I to find that in very many cases, which I had previously thought obviously needed radical operation not only did the symptoms disappear, but no trace of the piles could be found on even the most careful visual and digital examination Thus it happens that for a very considerable time I have been treating a large number of cases by injection and have been extremely pleased with the results and so have the patients, especially those who had come to the hospital for admission and operation after months or years of palliative treatment of other kinds The treatment however is by no means a new one and I claim not the slightest degree of originality for it It was first brought to the notice of surgeons in this country by Mr Swinford Edwards in 1858, but though it has been employed by him and by a few other rectal specialists since that time it has never become very generally known either by the rest of the profession or by the public The little operation requires a considerable degree of practice to perform properly, the cases need a certain amount of selection (indeed, a very great degree of discrimination must be employed if one is going to promise a long degree of immunity to the patients), it also needs a few special instruments, and, above all, a very good light With these reservations it is a treatment that would well repay surgeons, and even general practitioners, for a careful study

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[1] [illegible]

[2] [illegible]

The obvious advantages of the treatment are (1) that the patient need not lie up for more than at most 24 hours, (2) that there is no need for either general or local anæsthesia, since the treatment is practically painless, if properly performed, (3) that it can be made quite inexpensive, so much so, that it may be brought within the reach of even a quite poor patient, who certainly could not face the expense of an operation in private, (4) that it is a perfectly safe procedure in patients, such as the very aged, pregnant women, and others who for some reason cannot take an anæsthetic safely, such as persons with dangerous heart or lung diseases, (5) that there is no after pain, and (6) that it is, as far as I have seen after employing it in a very large number of cases, invariably harmless

The treatment is not suited to cases of strangulated or irreducible hæmorrhoids, nor to cases in which there are other complicating conditions, such as old standing fissures, fistulæ, ulcers, &c In this connexion I would remind my readers that the presence of obvious piles by no means contraindicates the presence of other rectal lesions, and that a full and complete examination must be made in every case before concluding that all the symptoms are due to the piles During my absence from the hospital on one occasion the then house surgeon, who had become a rather enthusiastic advocate of the treatment, injected some piles in a man aged 45 When I saw the man the following week his main complaint was that in spite of the treatment the diarrhœa which he had suffered from had not diminished, though the hæmorrhoids no longer prolapsed and the bleeding was less The history of diarrhœa aroused my suspicions, and on making an examination with the sigmoidoscope I found a large mass of carcinoma high up in the bowel The injection of the piles had done no harm, but the real nature of the case had been overlooked

Another class of case in which the treatment cannot be expected to cure is that in which the hæmorrhoids have become partly polypoid and fibrous from previous attacks of thrombosis In such cases one is dealing in reality with a solid growth, and it is unreasonable to expect that injection of carbolic acid will bring about the disappearance of fibrous tissue But even in these cases it may cause the bleeding to cease, and relieve the patient of a large part of his trouble while awaiting the operative treatment that is indicated

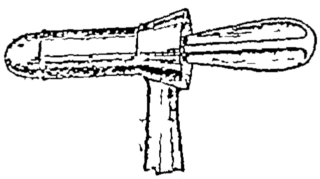
Now, as to the question of recurrence after the treatment, I confess I have not practised the treatment for a sufficient time to give a first hand opinion of any value on this point But I have watched a considerable number of cases for well over a year, and only know of two cases in which there has been the smallest return of troublesome symptoms In those two cases the patients returned asking me to reinject their hæmorrhoids, scouting the idea of operation, provided there were any prospect of going another 6 to 12 months without further troubles, even if the injection had to be repeated a third time after that interval Other surgeons who have had a larger and more prolonged experience of the treatment than myself have told me that in the vast majority of *suitable* cases it is safe to promise the patient that he will be free from symptoms for at least three years, that, if he has a recurrence after that time, the treatment may be repeated and another three years immunity from symptoms obtained And mark well that in the intervals no further troublesome treatment by ointments, lotions, suppositories, or what not is required, and this is a very great point because all these other forms of palliative treatment are messy and troublesome The only adjuvant treatment that is necessary is the use of some mild laxative—in fact, to warn the patient against the evils of constipation

The treatment consists in the injection into each internal pile of a few drops of carbolic acid and glycerine The solution I employ, and which I find by far the best, is —

Acid carbolici	gr xlviii
Glycerin	dr ii
Aquæ destillat	dr ii

This is a 20 per cent solution of carbolic acid I find that the amount which should be injected into each pile varies from 2 to 6 minims of this solution Great care must be taken not to inject too much, otherwise it is possible to produce slight sloughing, this is not a serious matter in itself, but it causes decided pain, and thus removes one of the great advantages of the whole proceeding It is far better to inject too little than too much, because in the former case the injection can easily be repeated if necessary My practice is to inject all the piles at one sitting whenever it is possible to do so Sometimes this is not practicable, because after injection a large pile sometimes swells so rapidly that the smaller piles are completely hidden for the time I find it easiest and best in every way to perform the injection through a large speculum The one that is most suitable is Kelly's sphincteroscope, as illustrated in Fig 1 Through this instrument the piles may be brought well into view, and even quite small ones may be seen—piles which could never be extruded and injected outside the anus

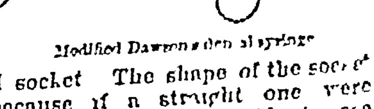
FIG 1



Kelly's sphincteroscope.

The other needful appliance is a suitable syringe This should be one of such length and diameter that it can easily be used through the speculum It should have a fairly wide bore needle, about 3/8 inch long, fitted into an elbow shaped socket The shape of the socket is important because if a straight one were used it would be difficult or impossible to see where the point of the needle was being inserted The syringe should be provided with the usual milled screw on the piston rod so that the correct quantity of the fluid may be

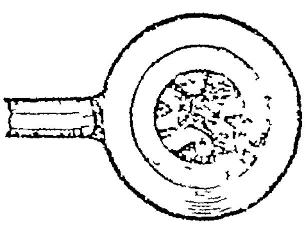
FIG 2



Modified Dawson's dental syringe

measured off and injected. The syringe shown in Fig 2 is the one which I find most useful It is known as Dawson's dental syringe, but the needles have to be specially made It is provided with two rings at its base to act as finger grips The syringe is made entirely of metal, and is therefore readily sterilised The only other essential is a really good light I find either the ordinary forehead lamp or a good standard laryngoscope lamp equally suitable The patient's bowel should have been cleared out previously by an enema if necessary The patient may be placed either in the "knee elbow" position or on the left side with a firm sandbag or cushion under the hip I usually employ the former posture for men and the latter for women, but on the whole the "knee elbow" position is preferable, because the lateral position necessitates an assistant to hold the right buttock out of the way in stout females The speculum is then passed. It should be very liberally greased with vaseline, and passed with all gentleness, if this is done it should cause no pain, but if it is not properly lubricated or is passed roughly, pain will be caused, and a nervous patient may afterwards describe the operation as anything but as painless as had been promised The speculum should be passed at once to its full length, and the obturator withdrawn The interior of the rectum being then visible, the speculum is slowly withdrawn for about an inch at a time, and then gently pressed in again for half an inch. In this way, when it has been withdrawn gradually down to the level of the hæmorrhoids, they will prolapse into the lumen of the speculum The appearance presented will then be much as is shown in Fig 3, the lightly shaded areas being diagrammatical representations of the piles in the positions in which they are usually found The dark pyramidal areas in front of each are the little anal valves immediately *above* which the hæmorrhoids lie These valves are important landmarks, and the *needle should never be entered below them*, or it will be encroaching dangerously on the muco-cutaneous junction The greatest care must be taken to avoid this error because if the injection is made too close to the skin it will produce a very decided amount of swelling and inflammation and consequently of pain

FIG 3



The speculum in position.

Before making the injection the piles may be sponged over with a little weak biniodide of mercury or 1-50 lysol solution, which should be at once mopped up with a dry swab to prevent risk of absorption It is a good plan also to touch each pile at the spot where it is proposed to inject it with a drop of pure carbolic This renders any chance of introducing infection from the mucous membrane negligible (I have never heard of infection occurring even where this precaution is not adopted) and also renders the point anæsthetic so that even the needle prick is not perceived The needle may then be inserted through the carbolised spot The surgeon should endeavour to enter the needle in the spot indicated on the two lateral piles by a cross in the diagram It should be pushed up along the long axis of the pile to near its base usually this means entering the needle to the shoulder of the shaft—i e., to its full length The lowest pile should always be injected first so that any bleeding which may occur shall not obscure the other piles The solution is then slowly injected in the quantity deemed advisable The needle is not withdrawn at once, but should be allowed to remain in position for some 30 seconds, until the pile has commenced to swell and has become blanched If this precaution is omitted there will be a good deal of bleeding as it is withdrawn, and the bulk of the carbolic solution will be washed away by the blood If any of the piles are of large size, it is well to make a second injection into the base of the pile by entering the needle in the transverse axis of the pile and injecting two or three drops of the carbolic solution as nearly as possible into the centre of the base of the pile Each pile is treated in turn in the same way The blood is mopped away with a sterile swab, and the "operation" is complete The whole proceeding does not take more than two or three minutes to carry out

The patient should be warned that the piles will swell up, and are likely to prolapse at first more than before It is of the greatest importance that they should not be allowed to remain down, but that they should be at once gently reduced, otherwise there is a risk of their becoming strangulated and sloughing The patient should be instructed therefore to keep quiet, if possible in bed, for the first 12 to 24 hours, and to wash the piles at once with cold water, should they prolapse, and then to grease them well with vaseline or some simple ointment and gently press them back This is the only after treatment required, excepting that some simple laxative, such as confection of senna and sulphur is advisable In working men, or in those with important business to attend to, it is not absolutely necessary to lie up at all, and if the injection is made in the evening, the patient may quite safely go to work or business on the following day—but he should then be told not to take unnecessarily strenuous exercise After five to seven days, the piles which have been injected will have shrunk markedly and eventually will be converted into mere fibrous ridges, which may be felt on digital examination If sufficient carbolic has not been used this process will not be complete and a second injection may be made after the expiration of from four to seven days Where the piles are large I have found that as many as four or five injections at weekly intervals may be required, but as a rule two or three are sufficient Frequently, after the piles which have been injected first have shrunk, other smaller piles which were concealed before, come into view, and these should be injected also, before the patient is dismissed In practically every case the bleeding of which the patient had been previously complaining, is stopped from the very first, and in most cases the prolapse also disappears within two days of the first injection As one patient put it to me recently, "I feel a hundred per cent better

In quite numerous cases of inveterate pruritus I have found a few small hæmorrhoids on careful examination with the speculum, and after these have been injected, the pruritus has disappeared—apparently for good I believe, therefore, that this little point might be borne in mind, and the injection of any piles that are present be tried before even contemplating the recommendation of any of the more severe operations for pruritus (such as Ball's operation) which, I believe, are often resorted to before a real attempt has been made to ascertain and remove the cause of the pruritus

Lockhart Mummery has recorded a case in which he unwittingly injected some hæmorrhoids in a hæmophiliac, with the result that rather dangerous hæmorrhage occurred This experience must be almost unique, but the possibility of such a misfortune should be remembered With this sole exception I know of no case in which the injection of piles has given rise to any dangerous complication, and, while I do not by any means go as far as Sir James Goodhart, I certainly do think that injection might be employed far more frequently, and operation less frequently, than is at present customary

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THE PROGNOSIS IN SYMPATHETIC OPHTHALMIA

BY PERCY DUNN, F R C S ENG,
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CUSTOM cannot justify the retention, upon logical grounds, of an effete terminology, a remark applying here to certain "terminological inexactitudes" prevalent in the science of ophthalmology, with special reference to the term sympathetic ophthalmia Every ophthalmologist is agreed that the disease is not due to sympathy, but to a process of infective origin Still, while this fact is generally conceded, the old misleading term is retained and used merely as a votive offering upon the altar of custom Although, as an infective disease, the evidence is lacking in respect to the special micro organism upon which the disease depends, at the same time no reasonable doubt exists that such a micro organism is present Meanwhile, bacteriology has failed to isolate it—it may be from failure of bacteriological technique This negative result, however, does not disprove the infective origin of the disease, if anything, it only relegates it to the same category as that of other diseases whose bacterial origin is admitted, but has, so far, failed to be actually revealed Based, therefore, upon these premisses, I have for some years employed the term infective cyclitis in reference to sympathetic ophthalmia This term may not precisely fulfil its mission, at the same time, it approaches nearer the reality, and is nowadays more strictly accurate than one in which a sympathetic origin is implied If, however, this term be objected to, as conveying too localising an impression, the variant, infective ophthalmitis, might be substituted to meet the susceptibilities of discordant opinion As I shall endeavour to show, in reality, a good deal—more than is generally supposed—turns upon this suggested change of nomenclature We can but admit that much legendary lore is associated with the old term sympathetic ophthalmia—lore tragical in its association, though founded on fact in the olden days, but, nevertheless, lore which is not supported by modern experience It cannot be disputed that the disease is now a different disease, at least in degree, from that upon which its literature has been mostly based The following reasons may be advanced in proof of this contention In the first place, sympathetic ophthalmia so called, is becoming very rare with time its increasing rarity has corresponded with the practice of aseptic and antiseptic principles in wound treatment For the same reason its virulence is greatly modified, and owing to this decline in virulence the disease has become curable In mild cases in which the infective process has developed, recovery is possible even to the extent of leaving no trace of the effects of the attack and the retention of normal vision in each eye Despite, however, the nature of the attack, and the favourable result, the legendary lore of the disease called sympathetic ophthalmia is made to apply to these cases In short, the teaching became an axiom —namely, "sympathetic ophthalmia once, sympathetic ophthalmia ever, all the time that a patient lives," to paraphrase a statement in regard to syphilis by the late Sir William Gull On the other hand, were the disease to be endowed terminologically, in a manner more accurately expressive of its modern conception, the tragical axiomatic conclusion of former days would cease to become a stumbling block in respect to its prognostic significance, while the present day more enlightened experience would take the place of a discredited claim, and become generally operative as a modern belief

The following case illustrates the point in question —

A young girl received a penetrating wound of the left cornea, slightly involving the limbus The injury was caused by the point of the blade of a pocket knife and was accompanied by a large prolapse of the iris She attended at a hospital and was treated as an out patient Subsequently, she was admitted with signs of infective cyclitis About three months later having made a good recovery under treatment, she was referred to me by an insurance company for report The right eye was natural in appearance externally the pupil was regular, acted freely to light, the media were clear, and the vision was 6 9, with −0 50 cyl W 6/6 nearly In the left, or injured eye, the signs, except for the history were negative of an infective attack There was a large coloboma of the iris on the inner side, and some scarring of the cornea, corresponding to the wound the pupil acted freely, so much as was left of it, the media were clear, the tension normal, and no pain on palpation was complained of The vision was 6/60 and was improved to 6/18 nearly, with + 2 50 cyl N [1] After reporting favourably upon the case I desired that the girl should be sent to see me again in six months' time This was done, with the same result, in respect to her examination Accompanying her, however, upon this occasion was a tragic report obtained from the hospital to the effect that she had suffered from sympathetic ophthalmia, that the eyes were consequently in a dangerous condition that at any time the disease might relapse and that possibly the girl in the future would become totally blind And yet here was a case of mild infective cyclitis in which the treatment had effected a cure, leaving no trace of the infective attack The loss of vision in the injured eye was due partly to the opacity of the cornea involving the pupillary area, and partly to the acquired astigmatism resulting from the corneal wound Thus had legendary lore condemned this girl to a life of invalidism so far as her eyes were concerned How could she continue to earn her livelihood with such a menace of blindness hanging over her? The evidence did not support so tragical a conclusion and so I reported to the company that she was now fit to resume her occupation

It is plain that in this case no allowance was made for the mildness of the infection The terrible prognosis was obviously based upon the past traditions of an acute virulent attack of sympathetic ophthalmia, manifestly portraying its presence, after partial recovery, by the gross sequelæ of a plastic irido cyclitis in the sound eye (enucleation having been performed upon the injured one), by the retention only of a remnant of vision and by some loss of tension Had any of these signs been present the prognosis might have been justified according to the old traditions But such was not the case, and yet despite this fact, the danger of relapses and the horror of ultimate blindness were included in the pronouncement of this girl's presumed fate

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[1] The cylindrical notation recorded corresponds with the [illegible] compass (vide THE LANCET Feb 19th 1910 p 5[illegible]

Some views may now be advanced in respect to the question of relapses, to which the disease, in earlier days, was especially prone In considering the matter first from the infective standpoint, the fact is clear that *enucleation of the injured and infective eye acts prophylactically* by removing the source of the infection Generations before the bacterial origin of the disease was ever thought of, this procedure was practised as the only method of *treatment holding out any prospect of arresting* the progress of the disease However, in the literature of the subject, cases have been recorded in which this result was not entirely attained Sometimes the infective signs have appeared in the sound eye some days after the enucleation, sometimes the influence of enucleation in arresting the disease has failed to become manifest especially in severe cases These varying results have tended always to arouse *speculation, casting some measure of doubt upon* the real etiology of sympathetic ophthalmia But in the light of its infective origin the explanation of these apparent divergences presents itself as easy, if we accept the premiss that the disease and *its effects are controlled by the virulence of the* infecting organism and the toxin it creates When the disease develops, some days after enucleation, in the sound eye, we may logically assume that the blood has already been charged with the toxin from the infecting eye, and *any symptoms of the* disease arising after the enucleation of the latter may be attributed to this cause Again, in the case of enucleation failing to arrest the *disease, it may* be assumed that the virulence of the infection and of the toxin has caused a high degree of toxæmia which remains after the source has been removed In these cases there does not seem to be anything remarkable, when they are compared with cases of acute traumatic tetanus, in which a fatal course is unarrested by excision of the wound

But a further factor may be concerned in association with the relapses to which eyes in which infective cyclitis has occurred are generally regarded as subject It is scarcely necessary to recall that a plastic irido cyclitis, of infective origin, is especially liable to cause *destructive* changes in the uveal tissues, and especially in the ciliary body—the blood organ of the eye The effect of these changes can only be to induce a condition of diminished resistance in these delicate tissues *rendering them liable to* exhibit reaction when *exposed* to any source of metabolic toxæmia. *The recurrent attacks, there* fore of so called sympathetic inflammation, of which the *text books* speak, may be attributable to this cause the relapses occurring independently of and secondarily *to the primary* infection The question of metabolic toxæmia as a *causative factor* in relapses of sympathetic inflammation so called does not seem to have been considered And yet as I have endeavoured to show in a paper in THE LANCET[2] the influence of such a *factor* in respect to all inflammations of the uveal region, presented notable points bearing closely upon their origin and treatment For example relapses could scarcely fail to occur in eyes damaged by sympathetic ophthalmitis when the *patient* was suffering from the effects of alveolar pyorrhœa

However this paper may *appear to be too* speculative and in the conclusions expressed *somewhat* [illegible] the accepted belief that the disease is [illegible] of infective origin But while this may [illegible] be admitted the fact nevertheless remains that every feature of the disease is capable of explanation upon this hypothesis There is nothing which even remotely suggests any sympathetic influence in its incidence On the other hand, to maintain the contrary impression obviously tends to hinder advancement of our knowledge rather than to promote it So long as "sympathy" is still regarded as a factor in the etiology, so long will the tendency prevail to divert attention *from the real line of progress* At the same time the truth must be admitted that the many blanks which have been drawn by original investigators in the attempt to demonstrate the infective origin *of the disease*, have materially discounted further *efforts to prove its real pathology* In *this respect*, therefore, interest in the disease has suffered some diminution, and probably *the days will be long* before the veil is raised revealing the true origin *of the infective* process Meanwhile some responsibility rests upon teachers *in their use of* the term "sympathetic ophthalmia." This term can only prove misleading to students—misleading in the sense of conveying the impression that sympathy is a *factor* in the causation of the disease Inasmuch as this premiss cannot now be maintained, it may reasonably be submitted that in all future text books upon ophthalmology the subject should be discussed solely *from the infective* point of view, and *a term* corresponding with the modern view of the disease employed, in the place of one which is now generally regarded as inaccurate

The next and final point to which attention may be drawn is *the question* of sympathetic irritation When Donders enunciated his belief that sympathetic irritation and sympathetic ophthalmia of his day were different morbid entities, this teaching was accepted and has since prevailed But reflection must show that this teaching was founded, not upon a basis suggestive of the pathology of the irritation signs, but solely upon the features represented by their incidence, and because these signs differed in degree from those of sympathetic *inflammation* the assumption was arrived at by which *the two* "sympathetic" manifestations were held to have a different *origin* From a *pathological* standpoint this reasoning was *obviously* unsound, and bearing upon this fact two or three *points* may be mentioned The close relationship existing between *sympathetic irritation* and sympathetic ophthalmia is demonstrated by the immediate arrest of the signs of the *former by the* enucleation of the eye to which their onset is *attributed* *The* same is true in cases in which sympathetic ophthalmia *is present in the* infecting eye, whose removal has *become* imperative in order to lessen the *peril to the* infected or sound eye, in which the symptoms are also present *But* the apparent difference in the manifestations of the signs in *each case* must be only a difference of degree, not of kind, a difference readily explainable upon *the hypothesis* of the varying virulence of the toxin to which the morbid effects are due In the first case the toxin resulting from the infection is only sufficient to *give rise to* modified symptoms in the second it is active enough to produce its destructive effects *We* may, therefore reasonably assume that the *toxin* conveyed through the medium of the blood *from* one eye to the other causes symptoms in accord *with its* virulence and *this hypothesis* merely coincides with what we should expect of an infective disease

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[2] [illegible]

The probability is that the real line of successful treatment in these cases lies in the discovery of a vaccine For this discovery, however, we shall have to wait until we know more of the true source of the infection Meanwhile, as is well known, pus infections of an eyeball do not cause "sympathetic" inflammation, the reason being that perhaps with one exception they do not create a toxin Again, infective cyclitis may be due to a mixed infection, and this possible fact may account for the difficulty which has so far been encountered in determining its nature.

Wimpole street W

Medical Societies.

ROYAL SOCIETY OF MEDICINE

Gas Gangrene

A SPECIAL meeting of this society was held on March 10th, Dr FREDERICK TAYLOR, the President, being in the chair

Dr M WEINBERG, of the Pasteur Institute, Paris, delivered a lecture entitled "Bacteriological and Experimental Researches on Gas Gangrene" He said that he commenced his researches on the subject at the British Military Hospital at Versailles in September, 1914 owing to the number of cases of gas gangrene among the British wounded from the battle of the Marne He was sent from the Pasteur Institute to the British front to investigate, and had since continued his research at a number of hospitals, both French and British The majority of surgeons had a rather confused notion of the disease at the beginning of the war, as evidenced by the various discussions at surgical societies The war surgeon showed a tendency to diagnose the condition every time he observed a very bad wound with gas infiltration if it extended rapidly The speaker referred to two separate forms of gas gangrene The first was the classic form, for it was described in all surgical treatises The second he designated the toxic form A typical instance of the first variety was that of a soldier who was received into hospital 24 hours after being wounded The foot and lower two-thirds of the leg was dark coloured, the wound was partly in the gangrenous, partly in the healthy tissue The discharge had a putrefactive odour The leg and thigh were swollen as far as the junction of the middle and upper portions, the veins much distended, and the skin bronzed Palpation revealed crepitation around the wound The temperature was 102 5° F, the patient being fully conscious In a few hours crepitation had extended all over the leg and thigh, and four or five large blebs containing dark liquid appeared on the thigh The temperature rose to 104° Though amputation at the middle of the thigh was carried out the gangrene extended over the trunk up to the neck, and death occurred the same night, the patient having suffered from dyspnœa two hours before the end The development was not always so rapid because the microbe chiefly answerable was often of a low degree of pathogenicity, and in such mild cases radical surgery usually saved the patient's life In another form of gas gangrene the predominant symptom was œdema which might be so considerable as to mask the gas infiltration An instructive case was that of a sergeant who was admitted into a French hospital 40 hours after he was wounded having been exposed 24 hours after being hit between the French and German lines He had a wound on the middle third of the forearm Gas crepitation round the wound was slight but marked œdema extended to the middle of the arm and the veins were prominent In spite of incisions on both sides of the arm and the washing of the wound with peroxide the œdema extended to the shoulder and chest and the patient died 24 hours later without showing any extensive crepitation The putrid odour was not necessarily a symptom of the case and it bore no relation to its gravity, indeed this odour was often due to organisms of quite low pathogenesis Dr Weinberg exhibited some micro-photographs of culture fields from cases revealing a variety of organisms including B perfringens, staphylococci, streptococci, and diplococci, also B sporogenes Gas gangrene did not seem to be due to any one specific micro-organism Owing to the difficulty of distinguishing B perfringens from the *vibrion septique* the toxins must be tested with antitoxic serum B perfringens produced large quantities of gas, the *vibrion septique* not so much There had also been found in these cases a B œdematis, the toxin of which, when injected subcutaneously into a guinea pig produced a rapidly extending œdema This microbe was often found associated with the B sporogenes He wished to repeat that there was no special flora peculiar to gas gangrene. A French doctor had discovered a new microbe causing the same form of gas gangrene—namely B fallax Some of the flora found in the condition came from the air many were of intestinal origin In all his cases he had tried to make a hæmoculture, but it was not always positive, indeed, it was quite rarely so in the toxic form of the disease Metchnikoff had shown that when a toxin was injected subcutaneously into guinea pigs it prevented the microb, by chemiotaxis, from arriving at the site of injection. In one case hæmoculture was done under the best conditions half an hour after death, and yet it proved negative The end came quite quickly, and the case was found to be due to three kinds of pathogenic organisms It was important to remember that every microbe was capable of producing colonies of various shapes so that shape of colony could not be relied on as a criterion The very rapid course of the gangrene in some men and animals was explicable on the ground of personal susceptibility If a wound were examined only a short time after its infliction few pathogenic microbes might be discovered, and yet in spite of prompt surgery gas developed Therefore favouring conditions must exist Careful observations and experiments showed that the gangrene of the limb was not caused by the microbes of gas gangrene, but by the complete obliteration of an important artery, such as the popliteal In one case the anterior and posterior tibials were obliterated by an inflammatory clot caused by non-gas-producing organisms The alteration in the tissues following vascular obliteration formed a favouring condition for the multiplication of gas-producing organisms, and for this it was not necessary for the injury to be extensive. To prevent gas gangrene wounds should be treated with the least possible delay, hence the most hopeful were those which could be quickly removed from the firing line As great improvement in this regard had now been brought about the number of the cases now seen had diminished even in view of the present number of wounded All surgeons were now agreed as to the great importance of immediately opening the wound as widely as possible and extracting projectiles and particles of clothing, combined with frequent irrigation with chemical solutions Good results had also followed the use of superheated air and the intravenous injection of salvarsan Polyvalent serum was also helpful—one prepared from all the organisms found in the wound Dr Weinberg concluded by expressing a hopeful view as to the outcome of these researches, given a continuance of patient striving towards the goal

For the convenience of our readers who may wish to follow up further the researches of Dr Weinberg on gas gangrene we append a short bibliography taken from the first instalment of an index[1] of war surgery published by the *Review of Comparative Pathology* —(With P Séguin) Notes bactériologiques sur les infections gazeuses C R H Soc de Biol June 11th 1915, p 274 Un cas de gangrène gazeuse à vibrion septique, ibid, April 2nd 1915 p 141 Recherches sur la gangrène gazeuse C R de l Acad des Sciences 1915 p 325 (With P Séguin) Sérum antitoxique C R H Soc de Biol, Nov 6th, 1915

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF OBSTETRICS

Exhibition of Specimens —Abdominal Pregnancy —Intestinal Hemorrhage in the New-born

A MEETING of this section was held on Feb 11th, Dr GIBBON FITZGIBBON, the President, being in the chair

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[1] Index de Chirurgie de Guerre [illegible] par la Presse [illegible] Première [illegible] La gangrène gazeuse [illegible] Par les Drs P [illegible] et H [illegible] Paris [illegible] 1915 [illegible] fr

The PRESIDENT showed a Uterine Sarcoma removed from a patient aged 51 years. There had never been any menstrual abnormality, and the menopause occurred between 45 and 48 years of age without incident. Five months before operation the patient developed uterine hæmorrhage which came on irregularly and frequently and for five weeks had been continuous, the only other symptoms were due to pressure of the tumour in the pelvis. On examination a symmetrical tumour was found reaching nearly to the umbilicus, and suggesting fibroid of the uterus. Total hysterectomy was done. On opening the uterus the cavity contained a pure-white lobulated mass brain-like in consistence the centre of which contained blood clot. Microscopically the tumour was a round-celled sarcoma. He referred to another case of Fibro-sarcoma removed from a woman aged 27 years. Both tumours were cystic. It was not possible in either case to diagnose sarcoma as distinct from fibroid before removal, though at operation the probability was suggested by the softness of the tumour in the case shown and by the impossibility of enucleation in the other case.—Professor A. J. SMITH stated that his experience was that pain seldom occurred in the early stages of diffuse sarcoma but it was an early manifestation in fibro-sarcomas. He recalled cases of polypi projecting through the os in which pressure of the examining finger burst a thin limiting membrane which formed the capsule of the polypus. The presence of this membrane he considered characteristic of sarcoma.—Dr R. J. ROWLETTE considered that the tumour originated in the endometrium, this form was most frequent in his experience.—Dr BETHEL SOLOMONS said that although text-books referred to sarcoma as a disease of early life the experience in this country was that it occurred most commonly about or after the menopause.

Dr SOLOMONS read a paper on Abdominal Pregnancy, in which he concluded that the cause of the condition had not been established, that diagnosis was extremely difficult, and that the best treatment was to operate immediately the case was diagnosed. He described a successful case which had occurred in his practice and exhibited the specimen.—Professor SMITH recalled a case of a patient ten months pregnant in which there was no difficulty in diagnosing abdominal pregnancy. The child could be palpated distinctly. No fœtal heart was audible, and the uterus could be isolated bimanually. The child weighed 12 lb., it was free from any malformation. The liquor amnii was scanty, the placenta, which was attached to the broad ligament, was easily separated. There was no difficulty in controlling the hæmorrhage as the vessels were thrombosed. In Dr Solomons's case the condition was different for there was an actively growing fœtus with its placenta broadly attached. The danger from hæmorrhage in separating the placenta was very great. He suggested the advisability of primary ligation of the corresponding internal iliac artery before proceeding with the separation of the placenta.—Dr E. HASTINGS TWEEDY said that he thought the time had arrived to revise our preconceived impressions respecting the fear of operative procedure in abdominal pregnancy. We had been too much under the influence of the teaching of the older school and all the horrors of uncontrollable hæmorrhage had been derived from their writings. He thought that the proper way was to tie off all vessels which fed the placenta, dealing with them one by one as they came into view rather than endeavouring to ligate some large artery which might theoretically be supposed to feed all the placental branch vessels.—The PRESIDENT agreed with the manner in which the case had been dealt with, and considered the only proper surgical treatment was to remove the entire mass. Any [illegible]

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 3rd, Dr Leonard Dobson, the President, being in the chair.—Mr J. G. Pardoe read a paper on Prostatitis, Acute and Chronic, in which he first described the anatomy of the parts concerned, afterwards discussing the causes, symptoms, and treatment of acute prostatitis. Heroic treatment, unless an abscess formed, was deprecated, the treatment recommended being hot irrigation of the rectum through two tubes. If abscess formed and required opening it should be opened through the perineum and never through the rectum, otherwise a troublesome fistula would probably result. Mr Pardoe said that the key to successful treatment of chronic prostatitis was prostatic massage and posterior irrigation systematically employed. The treatment was described as well as the investigations to be undertaken before a patient suffering from gonococcal infection of the prostate could be pronounced free from disease and allowed to marry. Tubercle and syphilis of the prostate were discussed. The differential diagnosis between adenoma, carcinoma, and fibrous prostate brought the paper to a close.—It was discussed by the *President* and Mr *Aslett Baldwin*.—*Dr S. D. Clippingdale* showed a Spleen weighing less than 2 ounces from a man aged 73, who died from heart disease and bronchitis. The specimen was sent to the pathological laboratory for examination.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 22nd, Dr J. T. Kitchin being in the chair.—Mr J. J. Bell read notes on a case of Cancer of the Uterus treated by radium. The patient, aged 52, had total hysterectomy performed in June, 1912. Three months later a small spot in the left corner of the vagina had not healed. This piece of tissue was removed and cauterised. It still refused to heal, and the spot slowly increased in size. In June, 1914, radium was applied to the ulcer in the vagina. In six weeks the ulcer had healed and the scar was still sound in January last.—Dr A. F. Martin reported on his experience of Scopolamine-morphia Narcosis in Labour. He had employed it ten times, all the cases being *primiparæ*. *The method he used was to give* 1/4 and 1/100 gr. doses respectively and to reinforce every two or three hours with 1/250 or 1/300 gr. of scopolamine and every eight hours with 1/8 gr. morphia. His conclusions were: 1. If given too early it only allays tedious and painful spasm of the os and abolishes the pains. Pituitrin in 1 c.c. doses does not re-establish the pains. 2. It is a great boon when dilatation is almost full, and from then onwards to delivery, even though it may entail a narcosis of 8 to 10 hours. The patient invariably has no recollection of any pain within a few minutes of the first dose. 3. The narcosis makes no difference in the amount of chloroform required in case of forceps delivery, nor in the amount of hæmorrhage. 4. The condition of the child only gave rise to anxiety in one instance, and that was thought to be due to the giving of a free total dose too near delivery. No dose should be given less than two hours before delivery. 5. The regulation of dosage is the crux of the whole matter. The objections to the method are (1) its tendency to make labour slower and (2) the resort to forceps more frequent.

LITERARY INTELLIGENCE.—A life of the late W. B. Tegetmeier is about to be published by Messrs. Witherby and Co., written by his son-in-law, Mr. E. W. Richardson, who was long associated with him in his literary and social life.

Reviews and Notices of Books.

The Endocrine Organs An Introduction to the Study of Internal Secretion

By Sir EDWARD A SCHÄFER, LL D, D Sc, M D, F R S, Professor of Physiology in Edinburgh University With numerous illustrations London Longmans, Green, and Co 1916 Pp 156 Price 10s 6d net

THIS book is founded upon a course of lectures (Lane Medical Lectures) delivered at Stanford University, California, in the summer of 1913 The abbreviated form, without illustrations, has already been reviewed in THE LANCET of May 8th, 1915 (p 970)

The revised form is greatly enhanced in value by the addition of the tracings and photographs —104 in all—which were used to illustrate the lectures The references to literature are purposely not unduly extended The author's aim is to supply a concise account of our present knowledge for the benefit of students and practitioners who may be desirous of obtaining more information regarding the internal secretions than is afforded by the ordinary text books of physiology How admirably the author has succeeded in his aim is strikingly exemplified by a careful perusal of the text, which is given in separate chapters and not in lecture form Professor Schäfer himself and some of his pupils have for many years been constantly adding to our knowledge of these ductless glands, so that he expounds his theme with first hand knowledge An endocrine organ is one which is known to form some specific chemical substance within its cells, and to pass this directly or indirectly into the blood stream The substance thus formed is the active material of the secretion These substances are quite different from enzymes New terms are introduced—e g, chalone, which means an endocrine product which inhibits or diminishes activity, as distinguished from a hormone, which excites to increased activity The term *autacoid* is given to a specific substance formed by the cells of one organ and passed by them into the circulatory fluid to produce effects upon other organs similar to those produced by drugs They may act either in the direction of excitation, and are then *excitatory* autacoids, or in that of restraining activity, inhibiting autacoids or chalones

After describing the groupings of the glands into three main heads—thyro parathyroid apparatus, suprarenals, and pituitary—each of these being compounded of two distinct but usually closely intergrown parts—the author proceeds to describe the methods used for the study of these glands The individual glands are then considered in detail, beginning with the thyroid and parathyroids In each case the structure, development, and physiology are succinctly set forth The four parathyroids —each one weighing only about half a grain—are amongst the most vascular organs in the body Tetany is without doubt a result of their removal Medical practitioners will be specially interested in the physiological and therapeutical effects produced by administration of the glands themselves or their specific products, and also by the author s remarks on the complex relation between the several endocrine glands towards themselves, as well as towards the other organs of the body which are affected by their removal The autacoid of the parathyroid (parathyrine) seems to be inhibitory in function, serving to keep in check the activity of certain tissues, especially of nerve cells, while thyrine from the thyroid acts like a hormone in increasing their excitability The interaction of the thyroid with other organs—e g, generative organs, liver, pancreas, adrenals, pituitary, and thymus, is carefully considered As to the thymus, its functions "are more obscure than those of most of the endocrine glands indeed, there is room for question whether it should be included amongst these bodies" Naturally much attention is given to the suprarenal capsules Little is known regarding the functions of the cortex, though there is some reason to believe that there is a connexion between the development of the sexual organs and that of the adrenal cortex The richness in lipoids and fats is a very striking feature The question is raised as to a connexion between the development of the substances formed in the cortex and those constituting the cerebral hemispheres The marvellous activity of adrenalin is shown by the fact that a strip of intestinal muscle is affected with a solution containing 1 in 20 millions and a strip of a coronary artery with a solution of 1 in 50 millions

To the pituitary body, though only about the size of a hazel nut without its shell, about 50 pages are given All the recent work is passed in review, including the epoch marking research of Harvey Cushing on the effects of removal of this gland. What little is definitely known about the pineal gland is set forth The secretions of the alimentary canal and the pancreas are next discussed About 18 pages are given to the internal secretions of the generative glands in the male and female, including the effects of castration, and the functions of the interstitial cells of the testis and the ovary, the corpora lutea, effects of removing and reimplanting ovaries, effects of ovarian extracts, the internal secretions of the uterus, mammary gland, and placenta

Altogether this is an admirably luminous and concise account of the present state of our knowledge concerning the highly important glands grouped as "Endocrine Organs"

JOURNALS AND MAGAZINES

Biometrika (December, 1915) Edited by KARL PEARSON Cambridge University Press Price 20s net —We cannot be too grateful to Professor Karl Pearson for issuing *Biometrika* as usual during the war—a very remarkable achievement when we take into account the depletion of workers the converting of laboratories into hospitals, and the financial strain during the primitive struggle for existence to which the world has been reduced The current volume of this review contains, as usual, articles of special interest to medical science notably a memoir by Madeline H Whiting, dealing with the relation of temperature pulse, and respiration to physique and intelligence Miss Whiting, with customary biometric exactitude—which in this case we think may be a little misleading—describes her work as a study in *criminal* anthropometry presuming apparently that because her data were obtained *from* criminals therefore results derived from analysis of these data would apply only to criminals But most of these results open up wider anthropometric issues To quote an instance Miss Whiting divides the data into several broad categories, distinguished by the bodily condition of the subjects Within these categories she finds significant differences of mean temperature Precisely stated the means range from 98 2° which is the value for subjects with quiescent tuberculous disease to 98 6° for a group distinguished by functional disorder of the heart Now these differences where significant are of course *general* and not *criminal* anthropometric facts, they are valueless for predicting criminality but they contribute to the diagnosis of disease, and incidentally they are confounding to the old notion of a fixed "normal temperature" that the temperature of every non febrile individual registers 98 4° exactly Here is another example Miss Whiting investigates changes of body temperature coincident with age, and she is enabled to summarise her conclusion with an equation which can be expanded to mean that the temperature falls 1/200 of a degree per year We think this decline of temperature with age can be regarded with safety as a physiological fact common to humanity, and not as a condition peculiar to criminals only But a chief object of this inquiry was to investigate the relation between temperature and intelligence, several writers having maintained that low grades of intelligence are associated with low degrees of temperature notably Norsworthy, whose statement is to the effect that as we pass down the scale from brightest girls to defectives and idiots there is a progressive decline in body temperature Miss Whiting s work does not confirm this statement, on the contrary, her conclusion, from evidence of criminal data, is that "the weak minded have a significantly *higher* average temperature than normally healthy criminals' Yet this does not show that the higher temperature is a characteristic of weak mindedness For perhaps defectives suffer to a greater extent than others from chronic disorders associated with higher temperature? Miss Whiting proceeds to examine this question, and her conclusion is that none of the observed pathological states is the source of the higher temperature of defectives Can the difference of temperature we are referring to be explained as an age difference? Again the conclusion is negative The figures do show that temperature falls with age, but they also show that the decline is independent of mental grade that at *every* age defectives have a higher temperature than normal minded However, in regard to this departure from Norsworthy s result, two points must be remembered The first is that not only are weak minded criminals un represented by idiots and imbeciles, but all of them do not suffer from intellectual defect, some criminals becoming weak minded through drink, others from vice insanity, and instability of character, and a few indeed being classed as weak minded from unmitigated depravity of conduct only The second point is this We know that there is a social class differentiation in *some* physical characters, we know that criminal defectives are drawn very disproportionately from the very lowest social classes, accordingly there is still a possibility that the higher temperature of defectives revealed by criminal data, may be a reflection of class differentiation in temperature and is not an associated attribute of mental deficiency Dealing with problems of pulse respiration and other characters in similar differential fashion Miss Whiting adds considerably to knowledge of anatomical and physiological relationships Particularly interesting are the discovered regression of temperature on pulse and the demonstration provided of the marked individuality that exists in the functioning of bodily organs which in the case of heart and lungs Miss Whiting shows to be as great as the physical *differences in* these organs themselves—pulse frequency and quality of respiration being as constant in the same individual at different times as they are variable in different individuals

We have noticed this most interesting memoir with some detail because it has the merit of illustrating the peculiar genius of biometric methods for disentangling the complicated conjunctions affinities and associations which impede solution of medical problems the ideal of biometry being to achieve a just perspective by trying every issue on the evidence of all the facts rather than by an evasive arrangement or selection of facts to enforce a particular view Other contributions to this number do no deal directly with medical problems but most of them will be found to bear more or less indirectly on some one of the [illegible] of medical science For instance inspired by special botanical knowledge and with conspicuous impartiality C C I and A N Hoopmans are content to record the facts only (data constants correlations &c) of a statistical investigation into the variation of the number of umbel rays of Umbelliferæ and while [illegible] leave it to others to base intelligent [illegible] on the facts And Miss M Orersen gives a careful comparative analysis of large representative series of measurements of Calmuck natives which shows [illegible] from one race to another the correlation of human organs (head measurements excepted) is practically identical [illegible] which the author summarises other conclusions in two sentences (1) the distributions of human measurements—as, by the way Quetelet originally pointed out—are approximately normal, (2) variability between human organs is not chaotic but governed by definite laws which enable us to predict measurements one from another On the other hand, ordinary medical readers will not find it easy to follow all the reasoning in the paper of L Isserlis on the partial correlation ratio, which is fairly stiff reading for a mind untrained in mathematics The kernel of the nut is a contracted correlation formula which should be gratefully nutritious to biometricians if its substance is sound But on this score its acceptance by the founder of biometry, who incorporates it in *Biometrika* precludes any necessity for outside recommendation

We regret not having more space to notice adequately Eveline Y Thomson s carefully balanced contribution to the modern effort at constructing a new and sound knowledge of the human skull As Crewdson Benington student, Miss Thomson, with callipers and craniophor, has been working during the past 12 months on the crania of the Moriori in the museum of the Royal College of Surgeons of England A very remarkable report of the investigation, which occupies over 50 pages of *Biometrika* is from first to last a model of scientific care lucidity, and restraint It is accompanied by 22 admirable photographs of the skulls, it is based on a multitude of accurately observed details and laborious computations, none of them superfluous, and the commentary running through it, with which the author revives the past and explains racial connexions, contrasts, and affinities, extracts for us a very lively interest from the dried dead bones on which she has been working The volume concludes with the usual "Miscellanea,' and with it is issued an appendix containing invaluable records of the late Professor Weldon's mice breeding experiments

Since the beginning of the war the commercial neglect of science in this country has been much discussed and deplored, and has formed the substance of a memorandum to the Government There is no doubt that this is a serious fact although detachment from the commercial astuteness, which uses science for its own ends, may be not altogether without advantage for science With *Biometrika* before us, however, it is perhaps not inopportune to comment on another aspect of this matter not stated in the memorandum referred to above—viz, how equally deplorable has been the indifference of legislators administrators, and social reformers of all kinds to anthropology and social science and especially to those fields of research where biometric methods are being pursued with ever increasing fruitfulness

Quarterly Journal of Medicine Edited by WILLIAM OSLER, J ROSE BRADFORD A E GARROD R HUTCHISON H D ROLLESTON, and W HALE WHITE Vol IX, No 34 January, 1916 Oxford At the Clarendon Press, London Edinburgh, New York, Toronto, and Melbourne Humphrey Milford Subscription 25*s* per annum, single numbers 8*s* 6*d* net each —The contents of this number are 1 Multiple Telangiectases with Epistaxis of the Familial Type, by Robert Hutchison and W Jenkins Oliver An interesting account is given of three cases of this condition in one family, together with references to the other recorded cases and a good plate illustrating the appearance of one of the patients 2 Some Functional Nervous Affections Produced by the War, by F E Batten A short review is given of some of the neuroses which have been produced by the war, with illustrative cases divided into five groups In the first of these are cases with defined paralytic manifestations such as hemiplegia monoplegia and paraplegia of hysterical nature, in the second *some* cases of mutism, in the third instances of temporary loss of memory under physical and psychical stress, in the fourth some cases with tremor, and in the fifth group a case with unilateral spasm of the muscles of the face and jaw 3 Acute Hodgkin s Disease with Involvement of Internal Glands and Relapsing Pyrexia by T H Whittington A description is given of the clinical features of a case, the diagnosis of which was obscure during life which proved at the post mortem examination to be acute Hodgkin s disease The chief features were an acute onset with a remarkable resemblance to typhoid, a relapsing course with signs suggesting portal obstruction and an entire absence throughout of enlarged external glands The general resemblance to a case of acute infective fever was very striking and would seem to support the view that this disease is due to some infective organism 4 Pyelonephritis with Glycosuria, by J H Ryffel A careful analysis of the clinical and chemical features of an unusual case is given in an interesting and suggestive fashion The patient, a man aged 32 years, showed œdema of a distribution not usually associated with renal disease, together with dry skin, marked albuminuria, pus and casts in the urine, and lipæmia After some time polyuria and a glycosuria of renal type developed Bacteriological examination by Dr Eyre revealed the presence of streptococcus pyogenes longus in pure culture Vaccinations and later urotropin were used with successful results 5 Paratyphoid Fever a Study of Fatal Cases, by Bertrand Dawson and T H Whittington In view of the comparative rarity of fatal cases of paratyphoid this account of 17 cases, 2 of paratyphoid A and 15 of paratyphoid B, with their post-mortem appearances, is of considerable interest The paper contains an analysis of the chief symptoms and of the post mortem findings, together with tables and six admirable coloured plates 6 Nephritis in the British Troops in Flanders A Preliminary Note by John Rose Bradford It is recorded that an outbreak of nephritis occurred among the British troops in France beginning in March and April, 1915, with a specially high incidence in the summer months Case sheets dealing with 1455 cases have been examined and the present paper deals with 571 of these in which casts were found to be present It would appear that the cases were those of a distinct nephritis characterised by well marked renal dropsy with rapid subsidence, frequent presence of bronchitis and dyspnœa, and uræmic manifestations such as epileptiform seizures of severe character and sudden onset Other features were the rarity of inflammatory complications and an extraordinarily low mortality It is also noteworthy that the cases occurred only in the British troops and not in the Indian 7 Critical Review The Protective Ferments of the Body, by R L Mackenzie Wallis An interesting and detailed study of the Abderhalden tests and their significance is given It is pointed out that recent work has tended to negative the principles of the method as laid down by Abderhalden, and that therefore other explanations must be sought

Journal of Anatomy and Physiology Conducted by SIR WILLIAM TURNER, K C B, Professor ALEX MACALISTER, Professor ARTHUR THOMSON, Professor ARTHUR KEITH, and Professor ARTHUR ROBINSON Vol L Third series, Vol XI, Part 2 January, 1916 London Charles Griffin and Co Annual subscription, 21*s* post free —The present issue of the *Journal* is the second part of the fiftieth volume and the last to be published under the management of its great founder, the late Sir William Turner For many other reasons than those implied by the position of his name at the head of the joint conductors of the *Journal* was the publication indebted to the great professor of anatomy, and it would be remiss to pen even the shortest note upon the present number of the *Journal* without recording the loss which anatomy has suffered by his death —Professor J Symington contributes a paper, which is in reality a study in criticism entitled "Endocranial Casts and Brain Form." The paper should be read as a continuation of the Struthers lecture of 1915 by the same author for the two together contain an elaborately worked-out collection of cold facts derived from the study of unromantic plaster and examined from the standpoint of stern common sense Amidst the uncompromising severity of plaster of Paris and unrelenting logic it is a relief to come upon the lighter touch of the misprint which represents Professor Elliot Smith's ability to "blot out" the details of the Piltdown cast —Dr J S B Stopford sends a first instalment of a valuable paper upon the Arteries of the Pons and Medulla Oblongata This piece of work has been carried out with thoroughness, and is of obvious utility Apparently the bibliography appended which includes 160 references relates to the whole work and not only to this particular portion of it, though the editors of the *Journal* give no hint of this nor even of what is obvious from the text, that the present paper is only a part of a continuous whole If a paper cannot be published in one issue (and this at times is manifestly impossible), some note should be given as to the preliminary nature of the portion published, and a bibliography which refers to future contributions should not be included with a portion with which it has only partial concern.—These two papers occupy more than half of the *Journal* and the remaining six contributions are short, though some are of considerable interest.—Dr H. Drinkwater describes an unusual Hereditary Abnormal Segmentation of the Index and Middle Fingers, which he has found in 15 of 36 descendants of a family showing the anomaly The paper is well illustrated by radiographs and diagrams —Dr W Sohier Bryant traces in a series of mammalian types the site of transition of the ciliated epithelium of the nose into the squamous epithelium of the pharynx This site of transition is variable, but is always in the region of the orifice of the Eustachian tubes —Professor Kenelm H Digby contributes a short paper on the Measurement of Diaphysial Growth in Proximal and Distal Directions The paper deals with the growth of the limb bones and its conclusions depend upon an acceptance of the author's statement that "the original artery which accompanies the initial invasion of the primitive cartilaginous rod by osteoclasts and osteoblasts enlarges and persists as the nutrient artery" No proof is adduced for this statement, and it is certainly one with which many embryologists would not be in agreement — Professor F Wood Jones describes the Genitalia of Galeopithecus and finds in this type a near resemblance to the fœtal stage seen in bats —Dr G I Strachan will find most anatomists in concurrence with him in his criticism of the accepted description of the formation of the Popliteal Groove of the Femur, even if all do not follow him in the whole of the details of his own explanation.—Dr Thomas Walmsley could have made his paper on Costal Musculature more valuable by turning to more primitive vertebrate types, and possibly this enlargement of his researches would lead to some modification of his present conclusions

The Philippine Journal of Science, Section B, Tropical Medicine Vol X, Nos 4 and 5 —The first number is entirely devoted to a Study of the Pathological Anatomy of Bubonic Plague, by Dr B C Crowell, illustrated with five coloured plates His conclusions are based upon the post mortem examination of 75 fatal cases of plague, as well as upon his previous investigations He divides bubonic plague cases into five classes or types (1) uncomplicated cases, (2) those with early septicæmia or without superficial buboes, (3) those of the secondary pneumonic type, (4) those of the secondary meningeal type, and (5) those of the secondary cutaneous type He points out that in bubonic plague, as in other bacterial infections, the infective agent may produce its most injurious effects sometimes in one part of the body, sometimes in another, and according to the parts most seriously involved several sub-types may be distinguished The portal of entry is most frequently on the skin, less often on the mucous membranes The plague lesions occurring in the various parts of the body are separately dealt with, as are also the associated lesions.— The second number contains three articles (1) by Dr David N Roburg on the Rôle played by the Insects of the Dipterous Family Phoridæ in the Spread of Bacterial Infections, giving particulars of a series of experiments carried out with the cholera vibrio on Aphiochæta ferruginea, Brunetti. The Phoridæ are, it seems only casually mentioned in the literature of this subject, and no previous experimental work, it appears has been done with this family in relation to the carriage of disease. The Phoridæ are very small black or yellow flies, and owing to their minute size are likely to be easily overlooked They breed in human excrement and are attracted by fæcal and putrefying material Dr Roburg seems to have demonstrated by his experiments that these flies are capable of disseminating cholera, as well as other filth diseases such as enteric fever, bacillary dysentery infantile diarrhœa, and the like Hence he thinks that the Phoridæ in the Philippine Islands are worthy of serious consideration (2) Dr Robert B Williams and Dr John A Johnston conjointly supply some Miscellaneous Notes and Comments on Beri beri, giving an account of their experiments on fowls We learn that Major R McCarrison I M S, had made cultures of an organism from the liver spleen kidney and heart of birds in which polyneuritis had been induced by feeding on white rice By injecting cultures of this organism he claims to have been able to reproduce a disease which appeared to be typical neuritis Dr Williams and Dr Johnston repeated these experiments but were unable to confirm any of Major McCarrison's essential findings They also carefully examined the milk from the breasts of four women suffering from beri beri but with negative results (3) An article on Pseudo-typhoid Fever (a variety of Japanese kedani fever) in Deli, Sumatra, by Dr Wilhelm Schüffner, chief medical officer at Deli

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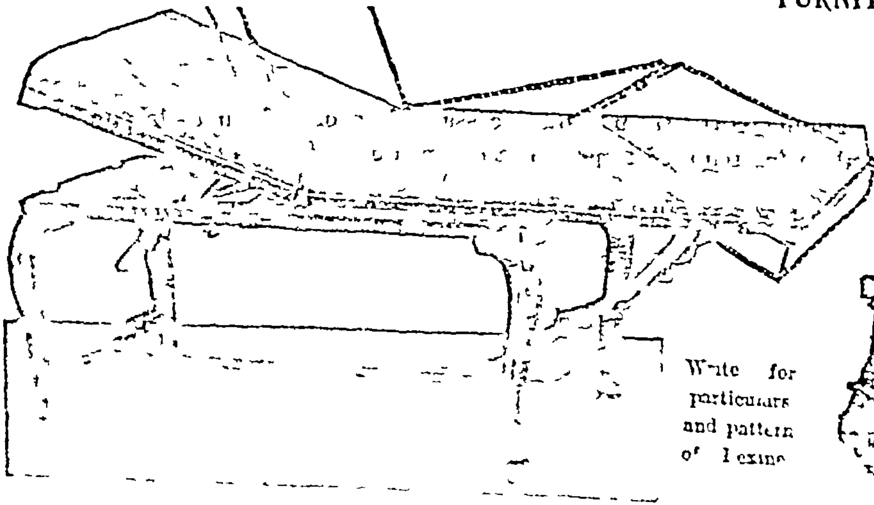

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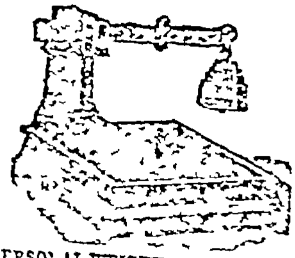

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LONDON SATURDAY, MARCH 18, 1916

Neurasthenia and Shell Shock

From the early days of the war attention has been directed to the probable dire results which were to be expected from the use of high explosives and from the awful experiences which must inevitably ensue Based upon a very imperfect acquaintance with the procedure adopted by the military authorities, there was at one time quite a formidable campaign of invective directed against the inhumanity of treating men with nervous symptoms as though they were either insane or malingerers It was too hastily assumed that no middle course would be recognised, and that these unfortunates would be either certified as lunatics or else returned to duty or discharged from military service with an inadequate pension These views, which are entirely erroneous, caused much needless anxiety to many public officials Questions asked in Parliament and letters addressed to the press served only to distract those who hastily took sides for or against the authorities The delight of a supposed grievance, within the comprehension of every intelligent thinker, stimulated much ignorant invective To the non medical mind there is always something attractive in the contemplation of strong contrasts, hence it was argued that the soldiers in question must be either sane or insane, and that they must be dealt with accordingly In the heat of controversy no count was taken of the difficulty so often experienced by alienists in dealing with border line cases It is, however, essentially in the study of border line cases that true progress can be effected Frontiers in medicine, as in geography, are artificial boundaries established in a more or less arbitrary fashion Different names are assigned *to the* nations on either side of the border, but *so far as* the people are concerned these *demarcations* may mean very little In medicine *there* is a neutral zone, a no man's land, a regnum protisticum, which really defies definition This nebulous zone shelters many among the sad examples of nervous trouble sent home from the *front* and it is only by accumulation of *facts* that we can hope for new definitions of permanent value The term "neurasthenia" applied to many of these cases has been of great service in allaying public anxiety It is commonly associated with an idea of a tedious, troublesome malady in which there is fair ground for hope of recovery under favourable conditions It does not denote any permanent structural change in the nervous system and it is therefore assumed that it is well within the reach of remedial measures It is, however, of such limited application in medicine that it could not be expected to reign alone "Neurasthenia" has hitherto been made to include many examples of defects of memory, of vision, of smell and taste, as well as many disorders of cutaneous sensibility, but the sudden appearance of all or some of these symptoms in healthy young males gave an impetus to fresh research and to the introduction of a new term "shell shock," which indicated the immediate exciting cause, without attempting further explanation

The Lettsomian lectures by Major F W Mott, upon the Effects of High Explosives upon the Central Nervous System, and the papers by Lieutenant Colonel Charles S Myers, upon the Study of Shell Shock, will be read with interest by all who desire to become acquainted with the latest phases of scientific investigation and speculation concerning this subject Both writers are well equipped by previous study and training, have done first class and original work in other but cognate spheres, and have had unusual opportunities of making a large number of observations Their contributions *therefore merit* the respectful consideration of all who desire assistance in lifting the veil of *obscurity* which *still* bewilders many who have to deal with isolated examples of this condition Even since the term shell shock has been employed there has been a tendency to consider that the cases might be divisible into *two* classes One class has been assumed to include various exaggerations of pre existing forms of mental deficiency, the second has been held to be akin to hysterical *manifestations*, and many have thought that *the symptoms* might, to some extent, be due to imitation, more or less under the control of the individual The number of cases now investigated appears to afford conclusive evidence that the subject of shell shock *is not lightly to* be disposed of on *either hypothesis It is* not so clear, however, that the keenest investigation has yet supplied a *satisfactory* answer to all the doubts which have been expressed Both Major Mott and Colonel Myers lay stress upon the terrible experiences through which the sufferers have passed In particular Major Mott gives gruesome details of the terrifying sights and sounds and of the harmful results likely to arise from the repetition of *these in* the form of dreams Colonel Myers, in the paper published in our current issue, attaches great importance to the influence of past history, giving interesting examples of *complaints of* pains in parts of the body previously the site of pain, such as occurs with a ruptured kidney or in severe pleurisy This, the psychical side of the question, apparently does not satisfy Major Mott, who endeavours to trace or *to* suggest *some* definite structural or pathological change *in* the central nervous system. He assumes *that though* there may be no evidence to show *that* the living matter is altered the *whole* symptoms point to a physical or chemical change and a break in the links of the chain *of* neurons which subserve a particular function Whether this break in the chain is the result of some change in the "intercalary" neurons, or whether the theory of "diaschisis" is important, or whether the "intercalary" neurons really possess amœboid movements remain as yet subjects for speculation. Major MOTT touches upon all these points, but he also attaches importance to physical trauma—concussion or "commotio cerebri"—and he appears to allow for some chemical changes due to poisoning with CO, and for the resulting deoxygenation of the blood. Other suggestive remarks are that the sudden death from the shock of a high explosive may be due to altered pressure of cerebro-spinal fluid upon the medullary centres, or to the sudden liberation of nitrogen suspended in the blood, and its transformation into bubbles of gas which cause instant death. We particularly draw the attention of our readers to the third of Dr. MOTT's lectures, which was published on March 11th, and which, by the way, appears to cast some doubts upon many of the hypotheses in the earlier lectures. He mentions the similar manifestations of "mutism" from shell shock and of hysterical mutism, and states that there is nothing new in these functional disturbances and disabilities of speech and special senses, except it be their severity and frequency in men the subject of shell shock. Medical officers who do not happen to be specialists in neurology will be encouraged by this remark to make close observations upon their patients.

Medical men, while grateful for these interesting lectures and papers, may feel in entire agreement with Major MOTT's concluding remark: "We shall want a brand-new Dictionary." There are numerous new terms as well as old terms employed with "a newly earned meaning" by both Major MOTT and Colonel MYERS, whether they will remain as permanent acquisitions will probably depend on the general recognition of their utility, of which the future must be the judge.

Education and Infant Welfare

UNDER the above title Sir GEORGE NEWMAN, the chief medical officer of the Board of Education, has issued a reprint from his general report for 1914, with an additional appendix, which should prove not only of interest to the medical profession, but to that ever enlarging section of the public also which concerns itself with the welfare of infants and children. Important as hereditary and antenatal influences undoubtedly are with respect to the survival and health prospects of the individual, facts are accumulating to show that with improved methods of "nurture" some of the most serious consequences of the so called inborn or natural defects can be immediately ameliorated or even in some cases entirely eradicated. The environment in its widest interpretation is now held to be a mightier factor in the destinies of the individual than in the days when rampant Weismannism held less disputed sway. There is possibly no difference in kind, though there certainly is in degree, between the influences of the environment which take slow effect on the individual's ancestral past and those which exert a more immediate effect on his embryonic or post natal evolution. The individual is the composite result of environmental forces which have acted or which act upon his organisation at every period of his development. The ancestral past is beyond recall, except in so far as the ambition of the eugenists may presume to interfere, but we are beginning to see more and more clearly that so called congenital defects, as well as inborn and acquired nutritional disorders, are largely under the control of the human will. As the chief medical officer of the Board of Education points out in his report, "the environment of the infant is its mother", its health and physical fitness are dependent primarily upon her health, her capacity as a housewife and her skill in mothercraft. In rearing its young the animal mother can rely on the almost infallible guidance of instinct which represents the stereotyped and accumulated wisdom of the past. The animal mother never makes mistakes through thinking for herself or through listening to the ignorant advice of interfering friends. The human mother, by reason of the priceless gifts of reason and intelligence, can avail herself not only of the accumulated experience of the past, but she can also acquaint herself with the results of contemporary progress, or even anticipate the discoveries of the future. Unfortunately the great majority of mothers do not know how to avail themselves of these great opportunities, knowledge must be brought to their doors and wisdom must be forced upon them.

In these directions schools for mothers, or, as they are better called, "schools of mothercraft," have done splendid service, and their record as summarised in the Board of Education's report is, indeed, one of which the nation may be proud. A great impetus has been given to the whole movement by the Government grants which are disbursed both by the Board of Education and by the Local Government Board. A public health circular just issued by the Local Government Board in Edinburgh sets forth the conditions under which grants will be made to similar schemes for Scotland. It is in many ways regrettable that differences of opinion should have arisen between two Government departments as to their exact spheres of interest in the administration and supervision of Infant Welfare Centres subsidised by these grants in aid. There are no real distinctions between the schools of mothercraft which draw their subsidies from the Board of Education and the maternity centres and infant clinics which draw theirs from the Local Government Board, though artificial lines of demarcation have, unfortunately, been set up in the clash of interests. In its relationship with the great educational movement the Board of Education has consistently encouraged the voluntary element, while the Local Government Board owing to its close association with the local health authorities, while by no means discouraging the voluntary enterprise, has shown its clear sympathy with the extension of the State or municipal side of the work A review of actual results shows that most has been achieved where municipal and voluntary enterprise have proceeded hand in hand The somewhat soulless machinery of official bureaucracy tends to become humanised by a leaven of irresponsible individualism, while the occasional impetuosity of voluntary enterprise may be sobered and chastened by the collective restraint of communal authority

The reports of the two voluntary associations—namely, the National Association for the Prevention of Infant Mortality and the Association of Infant Welfare and Maternity Centres—may well be read alongside those of the two Government departments The Propaganda Committee of the second of these societies claims to have been instrumental in establishing a total of 154 new centres in different parts of the country as the result of 14 months' work since the war began In the service of this committee there have been employed six peripatetic organisers who have visited in all 248 rural and urban districts with a view to securing local coöperation in the starting of either voluntary or municipal welfare centres Although this, the firstfruits, is eminently satisfactory, it probably by no means represents the final measure of a most commendable voluntary effort The National Association has also contributed vastly to the excellent results which are now recorded in the infant mortality tables by the efforts which it has made to stir Parliament, the public health departments, the bodies responsible for the training of medical students and midwives, to a fuller sense of the importance of directly and indirectly improving the environmental condition of the infant and child by the better education of the mother

A GENEROUS GIFT TO HOSPITALS —Sir W P Hartley of Liverpool has transferred £10 000 4½ per cent War Loan to London hospitals and £5000 to Liverpool hospitals in commemoration of his seventieth birthday Some Liverpool charities are also recipients of his generosity

THE PROBLEM OF CHILD LIFE TWO EXPERIMENTAL SCHEMES IN EDINBURGH —In the report of the voluntary health visitors in connexion with the public health department Edinburgh special attention is called to two experimental schemes—the babies' open-air play room made possible by the grant of £100 from the public health department and the effort to improve the knowledge of dietetics in the homes made possible by the coöperation of and grant from the National Health Insurance Committee of Edinburgh No fewer than 150 women came to a series of demonstrations on food values given by an experienced teacher deputed by the school board to speak to the mothers Miss [illegible] found the women [illegible] when she visited them in their homes She states that many [illegible] benefited by the demonstrations [illegible] the cookery at home [illegible] for a family [illegible] taught [illegible] would take to carry them out at home

Annotations.

"Ne quid nimis"

THE NOTIFICATION OF VENEREAL DISEASE IN SWEDEN

IN a general review last week of the recent report of the Royal Commission on Venereal Diseases we alluded to the absence of any recommendation in respect of notification as being reasonable pointing out that medical opinion was much divided on the matter, seeing the difficulties which hedge about any practical methods of the sort The proposal by the Swedish Royal Commission on Venereal Disease to make compulsory notification a more effective measure than has been the case in the past appears to have provoked trenchant criticism exactly illustrating these difficulties. One of the greatest objections to such a system is the invidious position in which it places the medical man, who is confronted with the choice of disobeying the law or violating his patient's confidence on a point requiring discretion and good faith According to one proposal by certain members of the Commission, it should be incumbent on the medical profession to extract from the patient the conditions under which infection occurred Neglect of this inquisition, it is further suggested, should be punishable No doubt in many cases it is feasible for a medical man to make discreet inquiries of his patient as to how he contracted venereal disease, but in many other cases were these inquiries made compulsory tactful handling of the situation would be impossible The Commission is reminded by one of its critics that the relations between patient and doctor are so delicate that they can satisfactorily be maintained only on the basis of strict professional secrecy Any regulation at variance with a medical man's conscience and good taste must be discarded. The Commission is further reminded that in other countries where legislative reforms have ignored the conscience of the medical profession opposition has been effective enough to make the provisions of the law a dead letter In order that the tracking down of sources of infection may be facilitated, it has been suggested that the patient who reveals the source of infection should himself be immune from the discomforts and restrictions following notification He is to be shielded in every respect, his identity is to be concealed, and even if his information is misleading, he is to be immune from the consequences of denouncing an innocent person to the authorities. Not only do these proposals place an effective weapon in the hands of the blackmailer, but they are also calculated to get members of the medical profession into serious trouble For while the informer is protected by anonymity, the luckless medical man, who has been made the informer's tool, is exposed to the attacks of the innocent victim of the informer The immunity which it is proposed should be conferred on the informer is regarded by many of the Commission's critics as most objectionable and unjust It is quite unfair that the informer should be allowed to discontinue medical treatment at will, while his victim, who may not even be infected with venereal disease is subjected to compulsory examination and if infected, to compulsory treatment With a little adroitness the worst sources of infection, by turning informer as occasion required could escape every restriction imposed on their relatively harmless dupes. As for the relation of medical men to such a system of notification, it is exceedingly probable that when it is learned that they are bound to notify venereal disease and track down sources of infection, many an infected man and woman would give misleading information It has been suggested that the Commission's proposals should be modified so that the medical man consulted by a patient should not be forced at once to notify the source of infection, but should attempt to get into touch with this source himself and institute treatment on his own account Only when he failed in this matter should he notify the case to the health authorities Briefly as we have reviewed the Commission's proposals and the criticisms thereon, it is abundantly evident that the obstacles to an effective and satisfactory system of compulsory notification of venereal disease are many and great

FRENCH MILITARY SURGERY A HUNDRED YEARS AGO

IN his "Histoire de l'État et des Progrès de la Chirurgie Militaire en France pendant les Guerres de la Revolution," Briot, of Besançon, a distinguished surgeon of the Napoleonic era, compared French surgery at the beginning of the ninteenth century with that of the close of the eighteenth The comparison was all in favour of the later period In fact, his book, crowned by the Société Medicale de Paris in 1815, and published in 1817, is an ardent eulogy of the French military surgeons during half a generation of fierce war Before their time static conservatism reigned supreme, but they were reformers in the best sense of the word They found surgery stagnant and they left it active, progressive, and enlightened to a degree that appeared to him almost miraculous He sums up the reforms and the progress effected in the wars of the revolutionary and Napoleonic epoch in 21 long paragraphs, which deal with the coolness and skill of the French military surgeons on the field and in the hospital, with sabre wounds, the rupture or section of the tendo Achillis, gunshot wounds, the treatment of wounds by incisions, amputations, wounds of the head, penetrating wounds of the abdomen, hospital gangrene, and so forth In every case he proves that practice has been improved on a rational basis by such famous men as Larrey, Massot, Boi, Méhée, Dufouart, Saucerotte, Heurteloup, Laurent, Leclerc, Fournier, and our own John Hunter, who died within the revolutionary period and on the same day as Marie Antoinette Briot justly boasts that French military surgery has in his epoch utterly outstripped that of Germany He had himself seen the wretched wounded in German hospitals, and puts on record the *mot* of Siebold, surgeon in chief to the Austrian army, to French officers alarmed at finding themselves in the hands of German surgeons after the battle of Würzburg "Consolez vous, mes amis, vous êtes entre les mains d'un chirurgien Français" Siebold was a Teuton imbued with French ideas Briot specifies no reforms in manipulation or technique with much exactitude, and only vaguely describes the superseded methods of the past But on reading his book it at once becomes apparent that modern military surgery owes much of its spirit and practice to the time of Napoleon Tetanus, in the then complete ignorance of bacterial origins, was still a mystery, but Briot notes that it affects the lower extremities, unprotected wounds, hospitals situated near batteries, exposed, neglected, and exhausted men, and patients treated with instruments or appliances not scrupulously clean He is manifestly on the right road in his own practice His description of his procedure may be taken as typical of the method and spirit of French military surgery a century ago, but very modern compared with what preceded it Tetanus has been treated by every conceivable remedy, and amputation was recommended by Larrey During ten years with the armies Briot claims to have been more successful with tetanus than his colleagues "Dare I announce the cause?" he says, and goes on to describe the prophylactic measures which he employed in an unconscious adumbration of antiseptic treatment Besides the extreme attention which he always paid to the routine of dressing he took care that dressings should be applied as gently and as seldom as possible, and that wounds should be kept from the contact of cold or deleterious air Nothing cold or irritating was to be applied to the wound, which was not to be wiped None but clean and sound instruments were to be used The patient was to be shown that he was a favourite and that his surgeon was also his friend The surgeon did all he could for his patient, and exacted the same conduct from his *aides* If all sick people have a right to consolation, avers Briot, then the soldier, isolated from his friends, has a double right to it, and should find his surgeon the gentlest and kindest of consolers It is a humane and beautiful conception worthy of the high traditions of France

THINNESS AND LIFE ASSURANCE

THE presence or absence of thinness is of definite importance to the medical officer of life insurance companies, since one of the factors on which estimation of risk is based is the constitution of the assured, of which thinness is one type Some companies exact an extra premium on account of thinness on those whose weight is 20 per cent below the standard, others take into account the relation between the height and the chest measurement, while others, again, rely on a "constitutional coefficient" calculated from a comparison of height, thoracic circumference, and weight Dr Romanelli, in *Il Policlinico* (Practical Section, Feb 13th), draws attention to the great practical importance of the "bi acromial diameter" in calculations of this kind This diameter is measured from the extremity of one acromion to the other, passing in front of the thorax, and has the merit of having two fixed and easily found bony points and of being a fairly accurate estimate of the development of the body in breadth and of the thoracic development Dr Romanelli places the lives to be insured into two classes in this respect those whose weight is 15 to 20 per cent below the standard and those whose weight is over 20 per cent below He endorses the opinion of Dr Havilland Hall that thin lives not exceeding 15 per cent of underweight should not be refused, but that those who pass this limit should only be accepted after a rigorous examination, and that if there is tuberculosis in the family a life below 30 years should be rejected

VENOUS PRESSURE OBSERVATIONS IN CARDIAC DISEASE

A NUMBER of different instruments and methods has been devised for estimating clinically the venous pressure Perhaps the most convenient method is that devised by Hooker in 1914 It consists essentially in a small glass cup, 2 cm. in diameter and 1 cm deep, connected with a water manometer The chamber is sealed to the skin over a suitable vein on the back of the hand by a rim of collodion By compression of the air in the glass chamber the vein, as seen by oblique illumination, can be obliterated, and the register of such pressure, applied as in the ordinary sphygmomanometer by a bulb, can be read in centimetres of water The pressure reading is taken at the point where slight oscillations of pressure cause the vein shadow to come and go promptly just before the vessel is completely collapsed The hand must be kept at the "heart level"—that is, in the middle line of the body and at the level of the costal angle The patient must be lying quietly and undisturbed In some persons no vein is obtainable, either on account of fatness or œdema or unusually small veins; these must therefore be passed over as unfitted for observation In the *Archives of Internal Medicine* for October, 1915, Dr Admont H Clark describes the method and also the results of his researches in a series of cases Two hundred and seventy six venous pressure observations were made on 14 cases at various stages of cardiac decompensation Systolic and diastolic pressures were also taken, and in most of the cases the fluid input and output was measured It is found that about 20 cm of water represents the upper limit of the normal pressure There is some variation in pressure during the day normally it is highest in the daytime, but, curiously enough, in cardiac cases it is usually found to be highest in the early morning hours A pressure above 20 cm marks the danger line between compensation and decompensation A rise of venous pressure is a bad sign, a fall the reverse In the fatal cases examined there was always a rapid rise of venous pressure or a continuously high pressure above 20 cm In this paper it is suggested that no relationship can be established between the venous pressure and either the systolic, diastolic, or pulse pressure (the difference between systolic and diastolic pressures) Venous pressure and urine output generally showed an inverse relationship the change of venous pressure tending to precede the changes in kidney function The coincident lowering of venous pressure with improved clinical conditions is very striking in some of the cases quoted in this paper, and as a means of prognosis the record of venous pressure appears to deserve a reasoned and careful trial

RED LIGHT IN X RAY SURGERY

THE use of a red lamp in the X ray room in order to render the retina sensitive to the green rays of the fluorescent screen is fairly common in practice A further application of the same principle has we learn from the *Scientific American*, been made by Professor Bergonié, of Bordeaux Any operation involving the search for a foreign body is conducted under red light with the result that when the greenish X ray illumination is substituted the surgeon is immediately able to scrutinise the finer shades on the fluorescent screen since his retina is already accommodated The method tends therefore to exactitude and the saving of valuable time The light is furnished by a luminous dome of large size placed immediately above the operating table and containing 20 red lamps of 25 candle power each In view of the present generally accepted idea that foreign bodies in the tissues should be removed while the patient is on the X ray table Professor Bergonié's practical suggestion may command general approval

THE CONCENTRATION OF VITAMINES

THE small fraction of vitamines usually given up by substances containing them is a serious handicap to elucidating their nature and composition, and is also a source of inconvenience in regard to their administration for curative purposes Any method, therefore, which aims at concentrating vitamines will be welcomed Such a method is described in the weekly public health report (Feb 18th) issued by the United States Public Health Service by Mr Atherton Seidell, technical assistant in the hygienic laboratory of this service Apparently the best and cheapest source of beri beri vitamine is brewer's yeast, which is treated by Mr Seidell in the following way The yeast is first subjected to pressure in a hydraulic press for the removal of the beer contained in it The resulting cake is stirred with ice cold water and again pressed out It is then brought to a temperature of 37 5° C and kept at that point for 48 hours, when an autolytic activity takes place, the material being converted to the consistency of thick soup The fluid is then filtered through folded filter papers and a clear red brown filtrate is obtained equalling about 50 per cent of the weight of the unfiltered material The fluid keeps well (several months) if stored in a cool place When administered in 1 c c doses on alternate days to a pigeon kept on an exclusive diet of polished rice, the bird did not lose weight or show symptoms within at least two months, the period of the experiment A pigeon kept on polished rice without the yeast filtrate lost weight within the first five days and died with the typical paralysis of polyneuritis When 1 c c of the yeast filtrate was given to completely paralysed pigeons a relief of this condition occurred within an hour, and to all outward appearances the pigeon appeared to be restored to health within 12 hours Mr Seidell next realised that although this yeast filtrate is very active an effective dose for a man, based on the amount required for pigeons, would be about 200 c c He therefore set to work on a method of concentration After a number of experiments made unsuccessfully with this end in view, he turned his attention to the possibility of using a medium which might exert a selective adsorption for the vitamine Preliminary experiments proved that fuller's earths removed the vitamine from the autolysed yeast filtrate The subsequent procedure was as follows To a large volume of clear autolysed yeast filtrate are added 50 *grammes* per litre of colloidal hydrous aluminium silicate The mixture is well shaken and allowed to stand several hours until the supernatant liquid is practically free of suspended solid The deposit now contains most of the vitamines The dark liquid is syphoned off, about an equal volume of water added and enough hydrochloric acid to yield an approximately N/100 acid solution This acid addition serves to expedite the subsidence of the remaining suspended matter All the sludge is now collected, and after repeated washing with weak acid transferred to a Büchner filter, washed with a little water, and finally with 95 per cent alcohol It is then spread out on a paper to permit of the evaporation of most of the alcohol and finally dried to constant weight in a vacuum desiccator containing concentrated sulphuric acid In both preventive and curative experiments made with this material on pigeons the results agreed with those described for the product made with the ratio of 200 grammes of reagent per litre of yeast filtrate

It was found that prompt and effective cures of completely paralysed pigeons resulted from 0 05 gramme doses of the activated solid, corresponding to 1 c c of the original yeast filtrate On the basis of 60 kilogrammes as the weight of man as compared with 300 grammes for the pigeon, an equivalent dose of the activated material would be 10 grammes of the solid on alternate days or 5 grammes per day According to Mr Seidell, the material is practically tasteless and odourless, and apart from the vitamine which it contains is said to be an absolutely inert substance, producing no noticeable effects on passage through the organism. The preparation of other vitamines (e g , potato) may be carried out on similar lines It seems a pity, we think, that the colloidal substance or adsorptive agent used is a siliceous mineral the harmlessness of which may be doubted It would be an improvement if aluminium silicate could be effectively replaced by an organic colloid.

PULMONARY SUPPURATION AFTER TONSILLECTOMY

IN the *Interstate Medical Journal* Dr H Wessler has published a careful study, principally skiagraphic, of the pulmonary inflammation due to aspiration, which sometimes follows tonsillectomy He applies the term "lung suppuration" as more accurate than abscess or gangrene of the lung, which describe only a possible phase of the process At the Mount Sinai Hospital, New York, he has examined with the X rays eight cases of pulmonary suppuration following tonsillectomy These formed as high a percentage as 28 of all the cases of pulmonary suppuration observed in the same period In all a general anæsthetic had been administered—a procedure which stands in close relation to the complication After an incubation period of a few days symptoms of broncho pneumonia begin Later, evidence of suppuration—chills, high fever, and purulent expectoration—supervenes In practically all the cases the sputum was foul at some time or other This is some justification for the designation of gangrene of the lung, but the latter is a subordinate lesion The putrefactive organisms usually cause small areas of gangrene, and as these are sloughed out the sputum becomes fœtid Periods of gangrenous sputum alternate irregularly with others in which there is no distinctive odour. Hæmoptysis is a very constant symptom and varies from a slight brownish discolouration of the sputum to the expectoration of a pint of blood. Pain is frequent and is due to associated pleurisy A predilection for the right lung was noted (six of the eight cases) and any lobe may be affected The physical signs are frequently not distinctive and are of the least value in diagnosis As a rule, an area of dullness of varying extent is demonstrable with but few changes in the respiratory sounds, which are frequently diminished In not one case were there signs of a cavity There is evidently consolidated and poorly aerated lung, sometimes covered by thickened pleura In six of the cases spontaneous recovery took place in from six weeks to five months In one case recovery took place after two years—following excision of carnified lung The remaining case is still unimproved Skiagrams show an infiltration of the lung of varying extent In five cases a cavity was demonstrated, in some with a fluid level which shifted on a change of position of the patient The shape of the infiltrated area varied, in some a lobar distribution was seen, others gave the impression of a residual infiltration involving only a small portion of a lobe Unless the lower lobe is involved there is no restriction of the movement of the diaphragm When present, cavities are easily recognised as lighter areas of circular or elliptical shape within the shadow of infiltrated lung In two cases they were multiple and in two located at the hilus. When filled with secretion they may be invisible, but come into view after copious expectoration The process of cure may be followed by the Roentgen rays The infiltration gradually becomes less dense and fades at the periphery until it disappears, leaving perhaps a few thickened strands for some time But clinical cure may be associated with persistence of the infiltration Whether in such cases recrudescence follows cannot be said.

THE METROPOLITAN WATER-SUPPLY

THE report on the condition of the Metropolitan water supply during the month of November, 1915, is of more interest than usual, since in London the mean temperature was 39·2° F , or 4·3° below the average, being the coldest November, with three exceptions, since 1858 The rainfall was 2 31 inches, being 0 03 inch below the average On the face of it the prevalence of cold weather would appear to diminish slightly the purity of both the raw and filtered supplies Thus all three raw waters deteriorated as judged by the albuminoid nitrogen, permanganate, turbidity, and colour tests, while the filtered waters either deteriorated or showed no change as indicated by the same tests, excluding turbidity Both raw and filtered waters gave results as a rule worse than their respective averages Again, the three raw waters contained more bacteria than their respective averages, but the filtered waters yielded, generally speaking, not unsatisfactory results In November, 100 0, 95 4, and 49 9 per cent of the samples of raw Thames, Lee, and New River water respectively contained typical B coli in 1 cubic centimetre (or less) of water, but in regard to the filtered waters 77·9, 90 9, and 22 0 per cent of the samples derived from the Thames, Lee, and New River contained no typical B coli even in 100 cubic centimetres of the water, or as much as a hundred times the amount of water examined compared with the raw river water London owes practically everything in regard to the purity of its water supply to the efficiency of the storage and filtration processes, and the high standard is maintained in spite of varying meteorological conditions

SUPPLY OF SYNTHETIC REMEDIES IN FRANCE

THE introduction to the newest edition—the twenty eighth—of Dr Bocquillon Limousin's useful synopsis[1] of new drugs for 1916 contains an article by Dr Grimbert, a member of the Academy of Medicine, on the means to be taken against the invasion of French therapeutics by drugs of foreign origin He is speaking not of pharmaceutical "specialities," but of chemical bodies of definite properties and constitution, and he frankly admits that at the present time the larger part of these products are of German origin Many of them bear designations which have been registered as trade marks, and are indeed the only names for these products in common use or generally understood

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[1] Formulaire des Médicaments Nouveaux pour 1916 par H Bocquillon-Limousin Twenty-eighth edition Paris: J B Baillière et Fils. 1916. Pp 3[illegible]0 Price 3 francs

To take a single instance. In the case of pyramidon which is official in the French Codex, no other name exists except its impracticable structural one of dimethyl amido antipyrine, and the curious situation arises of a valuable synthetic drug in common use possessing only a foreign registered name. The Appeal Court recognised the absurdity of such a position in 1907 and decided accordingly against the validity of a trade mark consisting simply of a name which was likely to become the usual and necessary designation of the drug or synthetic product. Since that time a series of 14 such names have been inserted in the Codex or its supplement—viz. (anglicised) aristol, aspirin, dermatol, duotal, salophen, sulphonal, trional, and phenacetin in the Codex and collargol, dionin, heroïn, novocaine, urotropin, and veronal in the supplement. It is therefore only necessary to write veronal (Codex) and diethyl malonyl urea of any reputable make conforming to pharmacopœial standard will be supplied instead of the proprietary article. Dr. Grimbert suggests that this practice should now be extended to all the synthetic remedies in common use, and that in addition the protection afforded by a registered name should be strictly limited to a single period of 15 years, instead of being allowed, as at present, to be repeatedly renewed at the expiry of such period. The practical effect of such a measure may best be gauged by a study of the quantities of these drugs used by the hospitals of Paris alone during a single year (1913). These are given in kilogrammes as follows: aspirin 347, ichthyol 301, urotropin 167, antipyrin 148, dermatol 96, pyramidon 68, phenacetin 24, veronal 24, tannigen 17, aristol 17, sulphonal 16, collargol 15, salophen 12, and protargol 8.

THE National Council for Combating Venereal Diseases proposes to organise a comprehensive educational campaign to combat venereal diseases in all suitable ways and especially along the lines laid down by the Royal Commission. This will involve arrangement for a number of conferences and courses of lectures, and the immediate issue of an authoritative summary of the principal conclusions of the report. These and other measures will need financial support, and the Executive Committee of the Council earnestly beg for the assistance of its efforts.

THE annual discussion of the Hunterian Society will take place at 1, Wimpole-street, W., on Wednesday, March 22nd, at 9 P.M. The subject chosen for debate—the Relationship of the Medical Profession to the State and the Community—is one which should attract a large gathering. The discussion will be opened by Dr. J. J. Smith, who will be followed by Sir John Collie, Dr. T. D. Lister, and Mr. F. Lawson Dodd.

Dr. S. G. Moore, medical officer of health of Huddersfield, in delivering the Milroy lectures at the Royal College of Physicians of London last [illegible]

PARIS

(FROM OUR OWN CORRESPONDENT.)

SOME French observers have worked out a method of detailed physiological examination applicable to beginners in aviation, which has already met with high approval. In order to test the degree of self-control and of endurance the would-be pilot must begin by exerting with both hands a rhythmic and continued effort, which is inscribed on the tambour of an apparatus and automatically added up in kilos by a meter. He is then placed in front of a needle moved by clockwork one complete turn in a second. Immediately the subject is aware of any deflection of the needle he must arrest it by pressing on a lever. Finally, a tambour is applied to his thorax or to the pulse in order to gauge his respiratory and circulatory rhythm. He is then submitted to a violent and unexpected sensation, visual or tactile—a magnesium flash, a detonation or a douche of ice cold water. A rigid self-control may ensure no apparent emotion from the subject, but the tambour of Marey mercilessly registers the tremor of his hand, the acceleration of his respiration, the beating of his heart—in short, the organic impression. The organism thus betrays itself by the degree of its reflexes and in a manner more or less the persistence of its sensory response. A pilot should remain imperturbable not only morally but physiologically. In spite of fatigue, in spite of danger, his system must remain prepared to respond at once not only to the call of his will but to the reflexes aquired during his education and training. Like his machine, he must be a supple and unfailing organism. From the moment when his flight begins he must constantly adjust his apparatus to the three dimensions of space. If he misses the moment at which any inclination begins the necessary effort will become greater, because the acquired inclination will have had time to become more pronounced. Fatigue will also tend to increase, and to bring with it a muscular weakness which renders slower the production of the reflex. These two drawbacks form a vicious circle and the moment will ultimately come in which the apparatus leans beyond the possibility of return. To sum up, what is essential for a good pilot is a combination in one person of resistance to fatigue, emotional passivity, and very rapid motor reaction, and these factors should be registered with precision in any tests to which the candidate is submitted. There is in this physiological examination, conducted in the way suggested above, more than an ingenious adaptation of medical knowledge to the needs of a special corps. The method offers guarantees for the individual and for the army as a whole, and if its employment becomes general may effect a real economy of men and material.

simple emetic method may be tried successfully, resulting in sudden cure in cases which have failed to respond to other methods of treatment

A New Method of Auscultation for the Early Diagnosis of Phthisis

It is generally believed that 60 per cent of cases of pulmonary tuberculosis recover when recognised and treated at the outset, but early diagnosis is often difficult At this curable stage of the disease any process which assists in revealing the existence of an early lesion is to be welcomed Dr Clover, as the result of earlier researches on vocal physiology, has demonstrated at the Hôpital Beaujon a new clinical application of auscultation of vocal resonance at a distance His method of precise auscultation localises and amplifies the slightest alteration of the normal resonance due to increased density in the lung affected with tuberculosis and other infections, or damaged by wounds of the chest By means of a novel arrangement the apparatus gives two simultaneous different sensory impressions which can be measured and of which one is the control. The practical character and utility of this research deserve to attract immediate attention

Dermatitis Produced by Zeppelin Bombs

In the case of several chemists who have handled substances contained in non exploded Zeppelin bombs, M Durelle has observed a dermatitis of rapid development It consists of red squamous plaques presenting some fine vesicles and occurring especially on the face, with a maximum intensity on the eyelids and periocular regions, the conjunctiva remaining intact The same lesions were found in less degree on the forehead and near the ears The hands presented slight alterations, and in one case the external genitals were attacked

March 13th

SWITZERLAND

(FROM OUR OWN CORRESPONDENTS)

The Lessons of War Surgery

AT the third annual meeting of the Swiss Society of Surgery held on March 5th at the University of Zurich under the presidency of Professor Th Kocher (Bern), Professor Sauerbruch, of Zürich, spoke on various practical questions of war surgery, basing his experience on a stay of nine months at the German front and two and half months at a base hospital He said that the stupendous size of the present warlike operations had necessitated a reorganisation of the whole ambulance service which had taken months to accomplish As the first ambulances are just behind the line of fire and the rear ambulances situated in villages only 5–8 miles further back, the ambulance corps were often in grave danger in both places from accidental shell fire It proved of vital importance for the direction of these services to be in well trained hands with an organising chief Surgeons already on the staff of a clinic in times of peace proved most competent Prompt supply of food and drink and an ample use of morphia were the chief essentials
in the first aid to the wounded, coup pid
removal to the rear of the slightly n
Those who expected benignant wo n
this war Professor Sauerbruch foun
error Even rifle fire at the shor
50–250 yards proved most destructiv
soft tissues owing to the form and v

projectiles Such wounds at first caused the erroneous idea that dum dum bullets had been used Shell fire was most destructive and damaged tissue to such an extent that necrosis ensued Toxins and bacterial infection found ample scope and rapidly carried off many In other cases so called gas phlegmon occurred This could be avoided by extensive excision of the damaged part, the knife cutting through healthy tissue and the wound left open Thus the necessity for amputation decreased, as also the prevalence of tetanus and of phegmonous processes Antitoxin treatment had proved useless against tetanus, and only the sulphate of magnesium treatment afforded a chance of recovery For wounds of arms and legs proper fixation was of primary importance in all cases, even in those apparently involving only the soft parts The question of transport should be determined by an experienced surgeon Abdominal wounds, compound fractures, wounds of the thorax, and all fever cases should be transported as little as possible The wounds of the thorax were generally severe, and the immediate mortality amounted to 40 per cent A fifth of the remainder still succumbed to later complications at base hospitals Abdominal wounds treated conservatively did very badly with a mortality of 95 per cent Immediate active interference was desirable Professor Sauerbruch had operated on 227 cases, among which all except 16 showed hæmorrhage or a lesion of the intestine 44 per cent of the cases recovered, and some were even fit for service again Professor Sauerbruch concluded with the verdict that the surgery of war could not be improvised, but must be built up on the experience obtained in hospital practice in times of peace

The Reimplantation of Ovarian and Testicular Tissue in Cases of Castration

In the *Korrespondenzblatt für Schweizer Aerzte* of Feb 12th Dr S Stocker, jun , of Lucerne, refers to the manifold detrimental and distressing nervous symptoms occurring as the result of castration in young individuals, some being so severe that suicide is attempted The administration of organic extracts, first advocated by Dr Brown Séquard some 20 years ago, is expensive and often ineffective Transplantations have been successfully performed by many operators (Moris, Glas, Cramer, Dudley, and others) Some technical details are of importance Dr Stocker transplants discs not thicker than 1/10 in to ensure rapid vascularisation Healthy parts of the tissue alone are used, thus excluding cases of malignant growths In tuberculosis he ventures to transplant parts of tissue that appear healthy In all cases interstitial tissue must be included, as this contains the vital substances in question After the operation he employs 0 3 c c of a 1 per 1000 adrenalin solution to control oozing Dr Stocker refers at length to three cases, aged 28, 24, and 30 years respectively, all successfully operated two to four years previously In one case in which laparotomy was necessary a year or more later he observed that the disc transplanted had not shrunk and was well vascularised Dr
Stocker ssful work should stimulate others
to tr ds

" of Professor Girard

Th rred at Geneva on March 4th
of P les Girard the eminent Swiss
surge on ha cause for alarm
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Franco Prussian War, of representative French and German doctors This took place at Geneva in 1877, when the chair was taken by Carl Vogt The outbreak of the present war marked the failure of the work of reconciliation to which Professor Girard had devoted many years of his life, and grief at this failure had undoubtedly undermined his health One of his colleagues contributes to the *Journal de Genève* a sympathetic account of his career Girard he says, was born at Renan, in the Bernese Jura, in 1850 He studied at various German and Swiss universities and took his degree when he was 21. In the Franco Prussian War he served in both armies, and at its conclusion was appointed to a professorship at the newly founded University of Strassburg He later returned to Berne, where his professional skill and profound medical erudition soon won him a world wide reputation He was appointed director of the Surgical Clinic at Geneva in 1904 His colleague adds "There is no need now to enumerate the services Girard rendered to medical science But reference should be made to his wonderful skill and to the perfect certainty of the surgeon s hand Whether it was a question of a delicate plastic operation to restore nose, lip, palate, or of one of the greater and more laborious abdominal operations his absolute mastery of technique was equally evident to the spectator, not a hesitation, not an unnecessary or misplaced gesture, not the loss of sangfroid for an instant His life of labour consumed his frame and in spite of the fever occasioned by a severe attack of influenza he declined to interrupt his work Pneumonia ensued, and the end came rapidly

Invalided Prisoners

The first stage in the work of bringing prisoners of war under treatment in Swiss health resorts has led to a total of 1247 being so dealt with—883 French and 364 German The French prisoners have been distributed as follows Leysin 330 Montana, 200 Glion, Chernex and Lionay, 136, Interlaken Wilderswil Brienz and Meiringen, 217 and the German prisoners 187 to Davos the remaining 177 to Weggis Gersau and Brunnen, on Lake Lucerne A commission of 20 Swiss military doctors is now visiting the prisoners camps in France and Germany, at the request of the two Governments to choose further invalids suitable for removal to Switzerland

be deplored, but until revaccination is made compulsory it may be a constantly recurring feature of the bills of mortality, to use a very expressive old phrase Considering the ignorance and superstition of a large section of the population of Calcutta, the health department may be congratulated on having succeeded in vaccinating over 100 000 persons during the year This constitutes a record for the department Cholera, which is endemic in Calcutta and annually assumes an epidemic form, was much less prevalent than usual The mortality from this cause was only 1611, as compared with 1893 in 1914 This is the smallest number of deaths from cholera recorded during the last 15 years Undoubtedly the most satisfactory feature of the records of the health department during the past 12 months is the almost complete disappearance of epidemic plague from the vital statistics of the city During the whole of 1915 only 191 deaths occurred from plague, a lower figure than has ever been recorded since plague first made its appearance in the city Calcutta was officially declared free of plague on August 16th, 1915, and, save for the occurrence of one isolated sporadic case, has remained free ever since

Bombay Health Bulletin

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(FROM OUR OWN CORRESPONDENTS)

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IN spite of the severe and widespread epidemic of small pox during the earlier part of the year, the general death rate for 1915 was only 28 5 per 1000 This compares favourably with the rate for 1914, which was 28 3 per 1000, and is not very greatly in excess of the lowest death rate ever recorded in Calcutta—viz., 27·2 per 1000 in 1911 The marked improvement in the health of the city which has taken place during the last few years is shown by the fact that in 1909, when small pox was prevalent in epidemic form, the general death rate rose to 34 1 per 1000 The outstanding feature of the vital statistics for the year was the outbreak of small pox which caused 2560 deaths out of a total of 25,595—i e, it accounted for one tenth of the total mortality Such a terrible loss of life from an entirely preventable disease is greatly to be deplored, but until revaccination is made compulsory it may be *a constantly recurring feature of* the bills of mortality, to use a very expressive old phrase Considering the ignorance and superstition of a large section of the population of Calcutta, the health department may be congratulated on having succeeded in vaccinating over 100,000 persons during the year This constitutes a record for the department Cholera, which is endemic in Calcutta and annually assumes an epidemic form, was much less prevalent than usual The mortality from this cause was only 1611, as compared with 1893 in 1914 This is the smallest number of deaths from cholera recorded during the last 15 years Undoubtedly the most satisfactory feature of the records of the health department during the past 12 months is the almost complete disappearance of epidemic plague from the vital statistics of the city During the whole of 1915 only 191 deaths occurred from plague, a lower figure than has ever been recorded since plague first made its appearance in the city Calcutta was officially declared free of plague on August 18th, 1915, and, save for the occurrence of one isolated sporadic case, has remained free ever since

Bombay Health Bulletin

Dr J A Turner, the executive health officer, Bombay has arranged to issue a monthly bulletin of the health of the city The object of this bulletin is to keep the people in touch with the health conditions of the city and to provide them with information on matters concerning the public health The first number of this bulletin (for December, 1915) contains hints as to preventing sickness, and these hints, we are told, will vary from month to month Under the heading "General Information" directions are given so as to enable the public to apply for advice to the health department and other departments of the municipality The prevailing seasonal illnesses during the month of December were diarrhœa, dysentery, enteric (or typhoid), malaria and other fevers, small pox, and measles To guard against sickness due to diarrhœa, dysentery, and enteric, Dr Turner asks all to pay special attention to the milk and food supply The bulletin contains many useful items of information, and will no doubt be found a valuable publication by the European community of Bombay city

Lady Hardinge College

The following staff has been selected for the Lady Hardinge Medical College and Hospital at Delhi which was opened by the Viceroy of India on Feb 17th — Principal and professor of medicine Miss K. A. Platt, M.B , professor of midwifery and gynæcology Miss Holtom, M B , *professor* of pathology Miss Field, M R C S , professor of anatomy Miss Murphy, M.B , professor of chemistry and physics Miss A M Bain, M A , professor of biology and physiology Miss M R Holmer, superintendent of nursing Miss Mackenzie It is expected that tuition will begin next September and the Government of India will contribute yearly to the annual maintenance charges

Mobile Laboratory for Mesopotamia

The St John Ambulance Association has arranged for a motor launch fitted out as a mobile laboratory for river work in Mesopotamia The launch and its fittings are the gifts of the Hooghly District Centre *of* the association, and special acknowledgment is due to Mr Bradley Birt, I C S , magistrate and collector of Hooghly, for his personal interest in the supervision of the construction of the launch by Messrs Burn and Co, Howrah, to Major F Norman White, I M.S, for expert advice, and to Major E D W Greig, C I.E, I M S, for the trouble taken in equipping the laboratory with everything necessary for medical research The launch recently left Calcutta en route for Bombay, where it will be handed over to the military authorities for transmission to the front It will be in charge of Major S R. Christophers, C I E, I M S, the director of the Central Research Institute, Kasauli, whose services have been placed at the disposal of the general officer commanding, and who has been selected as Deputy Assistant Director Medical Services (Sanitary) on the lines of communication in Mesopotamia

The Cocaine Habit

The Commissioner of Police, Calcutta, in a recent order to all police officers, states that cocaine cases which are sent up for trial by the police are mostly instances of seizures made by chance or on suspicion by officers on night rounds Street hawkers are occasionally captured, and now and then a den is raided and consumers are arrested in large numbers What is required is a special effort for the arrest and conviction of the large smugglers who finance the business and own large stocks The Excise Deputy Commissioner states that special rewards will be given to officers who secure adequate punishment for an offender of this class As the fine is, as a rule, easily paid out of profits, it is advisable, he states, to press the examining magistrate to impose imprisonment instead of a fine A conference attended by representatives of the Excise Departments of Delhi, the Punjab, and the United Provinces was recently held at Delhi to discuss inter provincial measures for the prevention of cocaine smuggling

Feb 14th

REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD FOR 1914-15

THIS report has just been published as a supplement to the forty fourth annual report of the Local Government Board Under the stress of war conditions its length has been greatly curtailed, and in other respects its character has been modified as compared with its predecessors Dr Arthur Newsholme, medical officer of the Board, announces that the work of the Medical Department now centres almost entirely around the military position, accordingly the account of work undertaken in this connexion occupies a prominent place in his report

Between the civil and military medical staffs there fortunately prevails complete harmony and collaboration, the advantage of which to both services is abundantly manifest In August, 1914, official instructions were addressed from Whitehall to the medical officers of health throughout the country to coöperate with the military medical staffs of the several camps offering such assistance as their local knowledge enabled them to afford The general supervision of the work was entrusted to the Board's medical staff many of whom were detached for this special service Their duties in concert with the army medical officers, consisted in safeguarding the health of the new troops and especially in minimising the risks of infectious disease, which are inevitable where large numbers of men are massed together under temporary conditions The medical staffs of both services being in almost daily touch, it has been practicable to deal effectively with local conditions inimical to health The high efficiency of the Board's action is officially recognised by the Army Council, who cordially appreciate the assistance which, under central guidance, the local public health authorities have rendered since the outbreak of war The Council declare that assistance to have been ' invaluable in safeguarding the health of the forces and in preventing the spread of infectious disease to an extent which would been otherwise impracticable ' Between the Naval Medical Department and the local sanitary authorities similar coöperation has been established, at the instance of the Admiralty, in so far as the naval camps, depots, and billets are concerned.

From a volume easily obtained we select for comment two sections which appear conspicuously deserving of attention in view of existing emergencies In the first, the general extension of provision for maternity and child welfare centres is ably advocated, in the second, the recent behaviour of typhus fever in Europe is portrayed, with especial reference to its prevalence among our Allies.

Maternity Centres and Child Welfare

Specially noteworthy among matters of war time importance is an *instructive memorandum* by Dr Newsholme on maternity and child welfare centres carried out in connexion with domiciliary health visitation, as an essential part of national effort for the protection of infant life. This *memorandum should be studied in relation* to a report by the same authority on 'Maternal Mortality in Connexion with Child bearing,' notice of which appeared at p 1157 of our issue of Nov 20th, 1915 Under war pressure Parliament has been induced to offer to local authorities, through the Notification of Births (Extension) Act, grants in aid of work done by those authorities or by voluntary agencies for the promotion of maternity and child welfare work. In recent years such work has extended rapidly partly by voluntary agency and partly *under statutory authority* Most of the authorities of sanitary districts with populations of 20 000 have already started schemes of health visiting, and still smaller authorities are, or shortly will be, similarly engaged Only when full advantage *is derived by the local authority from the* Births Notification Act can such work be undertaken with fair prospect of success Thus equipped, the authority can provide for the early visitation of every house in which a birth has occurred and suitable advice can be rendered by the health visitor When a reasonably accessible "centre" exists, the mother is recommended to resort thither But, inasmuch as a large part of the population live in remote country districts, long distances *have sometimes to* be travelled in order to reach the centre. Consequently experience shows that only about a quarter of the mothers visited can be induced to attend The establishment of a centre is usually the first step taken by a *voluntary agency* Much valuable work has been done at voluntary centres by means of 'infant consultations,' the systematic weighing of infants, &c But complete success cannot be achieved by such agencies unless *associated* with a complete system *of house visiting as set forth* in the report. In all cases it is necessary that the work of a centre should be directed by the medical officer of health, whether this *is provided by the* sanitary authority or by *voluntary agency*, so that effective coöperation may be secured between health visiting and the work of the centre

Training of health visitors.—The Local Government Board are empowered to contribute half the salaries of health *visitors*, consequently that authority is entitled to prescribe the qualifications of these officers Experience shows that the most useful qualifications of a health visitor are usually possessed (1) by a *trained nurse*, (2) by a certified midwife or (3) by a certified female sanitary inspector Whatever her previous training may have been the personal characteristics of the health visitor are extremely *important* Tact and knowledge *must be combined*, and the best health visitor *is one* who regards her work as a mission in life, and whose kindliness of disposition commends her to the objects of her care It is essential that well-qualified *women alone* should be appointed, and that their remuneration should be adequate

Antenatal and postnatal work—The welfare of mother and child cannot properly be considered separately About 40 per cent of the total deaths of infants occur within a month of birth and these are due largely to conditions determined by the mother's health during gestation To secure medical supervision for the expectant or for the nursing mother and her child is the main object of the centre, where facilities should exist for medical consultations

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and for the giving of hygienic advice Throughout the period of breast-feeding the infant s welfare depends absolutely on the mother s health, and after this period the infant's health is still liable to vary directly with the maternal well being, which naturally limits the care she can bestow on her offspring Experience proves the desirability of getting into touch with the mother before the birth of her child and in order to obtain the best results for both, of attending to the health of the mother for some time after confinement Hence the work of the centre, as respects both mother and child, must be antenatal as well as postnatal, and the same centre may conveniently be used for both purposes The work of the centre must in no case replace the family doctor On the contrary, as a result of the detection of early symptoms of illness many additional cases of illness will inevitably come under medical care for prompt, and therefore effective, treatment By the willing coöperation of the local medical profession the value of a centre will be increased, and accordingly it is desirable that this should be invariably sought The cost of a centre will, of course, vary with local circumstances The Local Government Board are authorised to contribute a moiety of the sums spent on the upkeep of a centre when the expenditure is subject to their approval The object of the antenatal work of the centre is to secure the removal of conditions adverse to the health of the expectant mother, and to ensure that the confinement shall take place in circumstances favourable to both mother and infant The success of the postnatal work of the centre will depend on the efficiency of health visitation under the Notification of Births Act There is no similar machinery for securing the *clientèle* for an antenatal centre Its success, therefore, will depend mainly on the coöperation of doctors and midwives and it is hoped that medical practitioners will encourage their poor patients to attend the antenatal clinics In order that all misunderstanding may be removed it must be an invariable rule that if anything beyond hygienic advice is required at the centre the family doctor should be informed and that no treatment of patients would be undertaken except at his request For the patients of midwives antenatal centres should prove most valuable Where the authority conducting the centre is also the local supervising authority for midwives the inspector will be able to explain to them the advantages thus attainable. Health visitors likewise will be in a similar advisory position It is only in those cases where the work of the centre is supplemented by judicious home visiting in order to secure compliance with advice tendered that the full advantage of the former can be hoped for Systematic home visitation frequently leads to improvement in domestic cleanliness and to better preparation for the infant on its arrival. When this is continued after confinement the mother can often be persuaded to bring her infant for medical supervision at the centre Moreover the value of a centre depends almost entirely on the character of the medical advice available In the words of the late Professor Budin, the distinguished founder of infant consultations, An infant consultation is worth precisely as much as the presiding physician.' This is even more true of the antenatal work of the centre But the value of the operations of a centre is by no means exclusively medical. The work of the health visiting staff is improved by their contact with other workers and with the doctor The efforts of the mother are reinforced by the counsel and help which she receives from the centre. And incidentally value attaches to the incentive derived from seeing other children well cared for. The well disposed mother will appreciate the fact that others like herself value the health and welfare of her child

Typhus Fever and the European War

This section is from the pen of Dr R. Bruce Low, a senior inspector of the Local Government Board After a careful perusal we regard it as presenting an excellent account of the past and present distribution of typhus in Europe. When the medical history of the war comes to be compiled the writer will doubtless express gratitude to Dr Low for one of the soundest pieces of epidemiological work ever contributed by the Medical Department at Whitehall

It has been well said that ' the history of exanthematic typhus is written in those dark pages of the world s story which tell of the grievous visitations of mankind by war famine and misery of every kind " In most civilised countries much has been done in recent times to ameliorate life conditions among the poor, in consequence whereof there has been a significant decrease in the ravages of this pestilence, which previous to the war had almost disappeared from Western Europe As a result of the present abnormal conditions typhus is again showing signs of attaining epidemic proportions in Central Europe. Accordingly, the time seems opportune for a brief account of this malady in the past as compared with the present Moreover, we now learn that typhus is seriously endemic in Poland and Galicia, two of the countries now involved in military conflict In view of the shocking lack of personal cleanliness at one time prevailing among the inmates of prisons and penitentiaries the frequent occurrence of typhus in gaols and houses of detention is easily explained Nor is it surprising that occasionally when prisoners awaiting trial for months together appeared in the dock in their foul and verminous garments typhus infection was spread by them to gaolers and others, and sometimes even to the judge on the bench In this way typhus is believed to have been conveyed largely from town to country villages by tramps and beggars imprisoned for minor offences It is on record that this pestilence has been an almost invariable accompaniment of protracted military campaigns in the past In such campaigns facilities for personal cleanliness are scarce, and change of clothing is often unobtainable for weeks or months together, the result being that soldiers become infested with lice Under these circumstances the introduction of an incipient typhus case may lead to disaster, each patient in turn increasing the opportunity for the specific infection of more body lice. The modern etiology of typhus, with the discovery that the body louse is a vector of the fever virus, is of special interest in this connexion In the Napoleonic wars "fever," probably typhus, is said to have caused serious disaster, 80,000 French troops having succumbed to it during the memorable retreat from Moscow In the Crimean campaign typhus was rife among the British, French, Russian, and Turkish armies In 1915 typhus appeared in Germany among the Russian prisoners of war as well as among the civil and military populations In Austria, apart from Galicia, 1500 cases were observed during January, 1915, in provinces which for many years had been exempt from the disease In the same month typhus became epidemic among Turkish troops in Erzeroum causing along with small pox, at least 1000 deaths daily, among whom were those of several medical men At the present time typhus is endemic in several European regions, the chief among these being Galicia and Poland

Great Britain has in recent years suffered little from typhus although some cases still occur in certain areas in the North of England, and in Ireland and Scotland It is possible that sporadic cases, due to imported infection, may pass unrecognised, owing to the fact that few of the younger generation of medical men are familiar with the disease, many of them having never seen a case During the 45 years 1869 to 1913 about 28 000 deaths from this disease occurred in England and Wales, and in the course of that period the incidence of attack is said to have almost steadily decreased

France and Belgium —Foci of typhus fever are said still to exist in certain parts of Brittany, including the Departments of Finistère and Morbihan , but with these exceptions the disease does not seem to thrive in France After the great wars of the First Empire France suffered severely from 'fever,' probably typhus, the armies having brought back infection from Eastern and Southern Europe Serious importation of typhus occurred on the return of the French armies from the Crimea where they suffered severely At least 10 per cent of the troops are said to have been attacked and half of that number perished In 1893 about 1000 persons in the North of France appear to have suffered from typhus fever about 100 of whom were medical men, sisters of mercy, or other attendants on the sick Since that year typhus outbreaks have been rare in France the deaths recorded having been very few The disease has now almost disappeared from that country as from other parts of Western Europe In Belgium there were several outbreaks of fever, probably typhus in the course of last century, but since then only sporadic cases have occurred The disease is reported to have been present in Antwerp from 1903 to 1906 but it is not certain that the cases occurring were true typhus personal interest in the supervision of the construction of the launch by Messrs Burn and Co, Howrah, to Major F Norman White, I M S, for expert advice, and to Major E D W Greig, C I E, I M S, for the trouble taken in equipping the laboratory with everything necessary for medical research The launch recently left Calcutta en route for Bombay, where it will be handed over to the military authorities for transmission to the front It will be in charge of Major S R Christophers, C I E, I M S, the director of the Central Research Institute, Kasauli, whose services have been placed at the disposal of the general officer commanding, and who has been selected as Deputy Assistant Director Medical Services (Sanitary) on the lines of communication in Mesopotamia

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It has been well said that "the history of exanthematic typhus is written in those dark pages of the world's story which tell of the grievous visitations of mankind by war, famine, and misery of every kind." In most civilised countries much has been done in recent times to ameliorate life conditions among the poor, in consequence whereof there has been a significant decrease in the ravages of this pestilence, which previous to the war had almost disappeared from Western Europe. As a result of the present abnormal conditions typhus is again showing signs of attaining epidemic proportions in Central Europe. Accordingly, the time seems opportune for a brief account of this malady in the past as compared with the present. Moreover, we now learn that typhus is seriously endemic in Poland and Galicia, two of the countries now involved in military conflict. In view of the shocking lack of personal cleanliness at one time prevailing among the inmates of prisons and penitentiaries the frequent occurrence of typhus in gaols and houses of detention is easily explained. Nor is it surprising that occasionally when prisoners awaiting trial for months together appeared in the dock in their foul and verminous garments typhus infection was spread by them to gaolers and others, and sometimes even to the judge on the bench. In this way typhus is believed to have been conveyed largely from town to country villages by tramps and beggars imprisoned for minor offences. It is on record that this pestilence has been an almost invariable accompaniment of protracted military campaigns in the past. In such campaigns facilities for personal cleanliness are scarce, and change of clothing is often unobtainable for weeks or months together, the result being that soldiers become infested with lice. Under these circumstances the introduction of an incipient typhus case may lead to disaster, each patient in turn increasing the opportunity for the specific infection of more body lice. The modern etiology of typhus with the discovery that the body louse is a vector of the fever virus, is of special interest in this connexion. In the Napoleonic wars "fever," probably typhus, is said to have caused serious disaster, 80 000 French troops having succumbed to it during the memorable retreat from Moscow. In the Crimean campaign typhus was rife among the British, French, Russian and Turkish armies. In 1915 typhus appeared in Germany among the Russian prisoners of war as well as among the civil and military populations. In Austria, apart from Galicia 1500 cases were observed during January 1915, in provinces which for many years had been exempt from the disease. In the same month typhus became epidemic among Turkish troops in Erzeroum, causing along with small pox, at least 1000 deaths daily, among whom were those of several medical men. At the present time typhus is endemic in several European regions, the chief among these being Galicia and Poland.

Great Britain has in recent years suffered little from typhus although some cases still occur in certain areas in the North of England, and in Ireland and Scotland. It is possible that sporadic cases due to imported infection, may pass unrecognised owing to the fact that few of the younger generation of medical men are familiar with the disease, many of them having never seen a case. During the 45 years 1869 to 1913 about 26 000 deaths from this disease occurred in England and Wales, and in the course of that period the incidence of attack is said to have almost steadily decreased.

France and Belgium.—Foci of typhus fever are said still to exist in certain parts of Brittany, including the Departments of Finistère and Morbihan, but with these exceptions the disease does not seem to thrive in France. After the great wars of the First Empire France suffered severely from "fever" probably typhus the armies having brought back infection from Eastern and Southern Europe. Serious importation of typhus occurred on the return of the French armies from the Crimea where they suffered severely. At least 10 per cent. of the troops are said to have been attacked and half of that number perished. In 1893 about 1000 persons in the North of France appear to have suffered from typhus fever about 100 of whom were medical men, sisters of mercy or other attendants on the sick. Since that year typhus outbreaks have been rare in France, the deaths recorded having been very few. The disease has now almost disappeared from that country as from other parts of Western Europe. In Belgium there were several outbreaks of fever, probably typhus in the course of last century but since then only sporadic cases have occurred. The disease is reported to have been present in Antwerp from 1903 to 1906 but it is not certain that the cases occurring were true typhus.

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Feb 14th

REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD FOR 1914-15

THIS report has just been published as a supplement to the forty fourth annual report of the Local Government Board Under the stress of war conditions its length has been greatly curtailed, and in other respects its character has been modified as compared with its predecessors Dr Arthur Newsholme, medical officer of the Board, announces that the work of the Medical Department now centres almost entirely around the military position, accordingly the account of work undertaken in this connexion occupies a prominent place in his report

Between the civil and military medical staffs there fortunately prevails complete harmony and collaboration, the advantage of which to both services is abundantly manifest In August, 1914, official instructions were addressed from Whitehall to the medical officers of health throughout the country to coöperate with the military medical staffs of the several camps, offering such assistance as their local knowledge enabled them to afford The general supervision of the work was entrusted to the Board's medical staff, many of whom were detached for this special service Their duties in concert with the army medical officers consisted in safeguarding the health of the new troops, and especially in minimising the risks of infectious disease which are inevitable where large numbers of men are massed together under temporary conditions The medical staffs of both services being in almost daily touch, it has been practicable to deal effectively with local conditions inimical to health The high efficiency of the Board's action is officially recognised by the Army Council who cordially appreciate the assistance which, under central guidance, the local public health authorities have rendered since the outbreak of war The Council declare that assistance to have been "invaluable in safeguarding the health of the forces and in preventing the spread of infectious disease to an extent which would been otherwise impracticable" Between the Naval Medical Department and the local sanitary authorities similar coöperation has been established, at the instance of the Admiralty, in so far as the naval camps, depots, and billets are concerned.

From a volume easily obtained we select for comment two sections which appear conspicuously deserving of attention in view of existing emergencies In the first, the general extension of provision for maternity and child welfare centres is ably advocated, in the second, the recent behaviour of typhus fever in Europe is portrayed, with especial reference to its prevalence among our Allies.

Maternity Centres and Child Welfare.

Specially noteworthy among matters of war time importance is an instructive memorandum by Dr Newsholme on maternity and child welfare centres carried out in connexion with domiciliary health visitation, as an essential part of national effort for the protection of infant life. This memorandum should be studied in relation to a report by the same authority on "Maternal Mortality in Connexion with Child bearing," notice of which appeared at p 1157 of our issue of Nov 20th, 1915 Under war pressure Parliament has been induced to offer to local authorities, through the Notification of Births (Extension) Act, grants in aid of work done by those authorities or by voluntary agencies for the promotion of maternity and child welfare work In recent years such work has extended rapidly partly by voluntary agency and partly under statutory authority Most of the authorities of sanitary districts with populations of 20 000 have already started schemes of health visiting and still smaller authorities are, or shortly will be, similarly engaged Only when full advantage is derived by the local authority from the Births Notification Act can such work be undertaken with fair prospect of success Thus equipped, the authority can provide for the early visitation of every house in which a birth has occurred, and suitable advice can be rendered by the health visitor When a reasonably accessible "centre" exists, the mother is recommended to resort thither But, inasmuch as a large part of the population live in remote country districts, long distances have sometimes to be travelled in order to reach the centre Consequently experience shows that only about a quarter of the mothers visited can be induced to attend The establishment of a centre is usually the first step taken by a voluntary agency Much valuable work has been done at voluntary centres by means of "infant consultations," the systematic weighing of infants, &c But complete success cannot be achieved by such agencies unless associated with a complete system of house visiting as set forth in the report. In all cases it is necessary that the work of a centre should be directed by the medical officer of health, whether this is provided by the sanitary authority or by voluntary agency, so that effective coöperation may be secured between health visiting and the work of the centre

Training of health visitors.—The Local Government Board are empowered to contribute half the salaries of health visitors, consequently that authority is entitled to prescribe the qualifications of these officers Experience shows that the most useful qualifications of a health visitor are usually possessed (1) by a trained nurse, (2) by a certified midwife or (3) by a certified female sanitary inspector Whatever her previous training may have been the personal characteristics of the health visitor are extremely important Tact and knowledge must be combined, and the best health visitor is one who regards her work as a mission in life and whose kindliness of disposition commends her to the objects of her care It is essential that well-qualified women alone should be appointed, and that their remuneration should be adequate

Antenatal and post-natal work.—The welfare of mother and child cannot properly be considered separately About 40 per cent of the total deaths of infants occur within a month of birth and these are due largely to conditions determined by the mother's health during gestation To secure medical supervision for the expectant or for the nursing mother and her child is the main object of the centre where facilities should exist for medical consultations

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[1] Wyman and Sons Fetter-lane (Cd 8153) Price 6d

and for the giving of hygienic advice Throughout the period of breast-feeding the infant's welfare depends absolutely on the mother's health, and after this period the infant's health is still liable to vary directly with the maternal well being, which naturally limits the care she can bestow on her offspring Experience proves the desirability of getting into touch with the mother before the birth of her child and in order to obtain the best results for both, of attending to the health of the mother for some time after confinement Hence the work of the centre, as respects both mother and child, must be antenatal as well as postnatal and the same centre may conveniently be used for both purposes The work of the centre must in no case replace the family doctor On the contrary, as a result of the detection of early symptoms of illness many additional cases of illness will inevitably come under medical care for prompt, and therefore effective, treatment By the willing coöperation of the local medical profession the value of a centre will be increased, and accordingly it is desirable that this should be invariably sought The cost of a centre will of course, vary with local circumstances The Local Government Board are authorised to contribute a moiety of the sums spent on the upkeep of a centre when the expenditure is subject to their approval The object of the antenatal work of the centre is to secure the removal of conditions adverse to the health of the expectant mother, and to ensure that the confinement shall take place in circumstances favourable to both mother and infant The success of the postnatal work of the centre will depend on the efficiency of health visitation under the *Notification of Births Act* There is no similar machinery for securing the *clientèle* for an antenatal centre Its success therefore, will depend mainly on the coöperation of doctors and midwives and it is hoped that medical practitioners will encourage their poor patients to attend the antenatal clinics In order that all misunderstanding may be removed it must be an invariable rule that if anything beyond hygienic advice is required at the centre the family doctor should be informed, and that no treatment of patients would be undertaken except at his request For the patients of midwives antenatal centres should prove most valuable Where the authority conducting the centre is also the local supervising authority for midwives the inspector will be able to explain to them the advantages thus attainable Health visitors likewise will be in a similar advisory position. It is only in those cases where the work of the centre is supplemented by judicious home visiting in order to secure compliance with advice tendered that the full advantage of the former can be hoped for Systematic home visitation frequently leads to improvement in domestic cleanliness and to better preparation for the infant on its arrival. When this is continued after confinement the mother can often be persuaded to bring her infant for medical supervision at the centre Moreover the value of a centre depends almost entirely on the character of the medical advice available In the words of the late Professor Budin, the distinguished founder of infant consultations, "An infant consultation is worth precisely as much as the presiding physician " This is even more true of the antenatal work of the centre But the value of the operations of a centre is by no means exclusively medical. The work of the health visiting staff is improved by their contact with other workers and with the doctor The efforts of the mother are reinforced by the counsel and help which she receives from the centre. And, incidentally, value attaches to the incentive derived from seeing other children well cared for. The well disposed mother will appreciate the fact that others like herself value the health and welfare of her child

Typhus Fever and the European War

This section is from the pen of Dr R. Bruce Low, a senior inspector of the Local Government Board After a careful perusal we regard it as presenting an excellent account of the past and present distribution of typhus in Europe When the medical history of the war comes to be compiled the writer will doubtless express gratitude to Dr Low for one of the soundest pieces of epidemiological work ever contributed by the Medical Department at Whitehall

It has been well said that ' the history of exanthematic typhus is written in those dark pages of the world's story which tell of the grievous visitations of mankind by war famine and misery of every kind ' In most civilised countries much has been done in recent times to ameliorate life conditions among the poor, in consequence whereof there has been a significant decrease in the ravages of this pestilence, which previous to the war had almost disappeared from Western Europe As a result of the present abnormal conditions typhus is again showing signs of attaining epidemic proportions in Central Europe. Accordingly, the time seems opportune for a brief account of this malady in the past as compared with the present. Moreover, we now learn that typhus is seriously endemic in Poland and Galicia, two of the countries now involved in military conflict. In view of the shocking lack of personal cleanliness at one time prevailing among the inmates of prisons and penitentiaries the frequent occurrence of typhus in gaols and houses of detention is easily explained Nor is it surprising that occasionally when prisoners awaiting trial for months together appeared in the dock in their foul and verminous garments typhus infection was spread by them to gaolers and others, and sometimes even to the judge on the bench. In this way typhus is believed to have been conveyed largely from town to country villages by tramps and beggars imprisoned for minor offences It is on record that this pestilence has been an almost invariable accompaniment of protracted military campaigns in the past In such campaigns facilities for personal cleanliness are scarce, and change of clothing is often unobtainable for weeks or months together, the result being that soldiers become infested with lice Under these circumstances the introduction of an incipient typhus case may lead to disaster, each patient in turn increasing the opportunity for the specific infection of more body lice. The modern etiology of typhus, with the discovery that the body louse is a vector of the fever virus, is of special interest in this connexion In the Napoleonic wars "fever," probably typhus, is said to have caused serious disaster, 80,000 French troops having succumbed to it during the memorable retreat from Moscow In the Crimean campaign typhus was rife among the British, French, Russian, and Turkish armies In 1915 typhus appeared in Germany among the Russian prisoners of war as well as among the civil and military populations In Austria, apart from Galicia, 1500 cases were observed during January, 1915, in provinces which for many years had been exempt from the disease In the same month typhus became epidemic among Turkish troops in Erzeroum, causing, along with small pox, at least 1000 deaths daily, among whom were those of several medical men At the present time typhus is endemic in several European regions, the chief among these being Galicia and Poland

Great Britain has in recent years suffered little from typhus, although some cases still occur in certain areas in the North of England, and in Ireland and Scotland It is possible that sporadic cases, due to imported infection, may pass unrecognised owing to the fact that few of the younger generation of medical men are familiar with the disease, many of them having never seen a case During the 45 years 1869 to 1913 about 26 000 deaths from this disease occurred in England and Wales, and in the course of that period the incidence of attack is said to have almost steadily decreased

France and Belgium —Foci of typhus fever are said still to exist in certain parts of Brittany including the Departments of Finistère and Morbihan , but with these exceptions the disease does not seem to thrive in France After the great wars of the First Empire France suffered severely from 'fever,' probably typhus the armies having brought back infection from Eastern and Southern Europe Serious importation of typhus occurred on the return of the French armies from the Crimea where they suffered severely At least 10 per cent of the troops are said to have been attacked and half of that number perished In 1893 about 1000 persons in the North of France appear to have suffered from typhus fever, about 100 of whom were medical men, sisters of mercy, or other attendants on the sick Since that year typhus outbreaks have been rare in France the deaths recorded having been very few The disease has now almost disappeared from that country as from other parts of Western Europe In Belgium there were several outbreaks of fever, probably typhus in the course of last century, but since then only sporadic cases have occurred The disease is reported to have been present in Antwerp from 1903 to 1906 but it is not certain that the cases occurring were true typhus

Russian Empire —For many years past certain parts of this empire have been recognised as endemic centres of typhus, and from time to time the disease has become epidemic in one locality or another Most of Russia's campaigns have been attended with outbursts of typhus In the Crimean War about 100,000 cases were reported at Sebastopol, and later the disease became seriously prevalent over almost the whole of Southern Russia From the important cities of Moscow, Warsaw, Petrograd, and Odessa typhus seems to have been seldom absent for many past years In May, 1914, there was a sharp outbreak at Taganrog, on the shores of the Sea of Azov Since the outbreak of war and the subsequent fighting in Poland typhus fever has been prevalent at Lodz, the prevalence extending to the surrounding villages that were occupied by the Germans The disease has since been conveyed from Poland, presumably by Russian prisoners to the internment camps in Germany, and has spread thence to the civil populations of the surrounding camps It is probable that when the records come to be published the period 1914–15 will show a large increase of typhus in Russia generally, especially in the spheres of operation of the great armies and in the concentration camps

Serbia —In the course of the Balkan campaign Serbia suffered severely from typhus, which became prevalent among the troops in 1912 The epidemic was at its height during the spring of 1913 More than 100 cases were treated in the hospital at Belgrade, where the mortality was higher than in the military camps Simultaneously with the epidemic in the army similar prevalence occurred among the Turkish prisoners of war in Serbia Of 440 cases in one district 370 were Turks and only 70 Serbians The disease was most fatal among the former Apparently a fresh importation to Serbia of a virulent strain of typhus infection took place after the sanguinary battles of 1914, when about 70 000 Austrian prisoners were interned there About Christmas of that year the disease broke out among 2500 Austrian prisoners interned at Uskub, up to March, 1915 about 1000 of these prisoners had been attacked, many of whom died By this time the epidemic was widespread over Serbia In the town of Kragujevatz there were in March 14,000 typhus cases From certain towns and villages the whole population disappeared, having either fallen victims to fever or else fled elsewhere for safety As usual in such epidemics, the medical attendants suffered heavily Out of 360 Serbian doctors 100 succumbed to the disease English, French, and American doctors and nurses were also attacked, many of them fatally It is stated that owing to the pressure of applicants the hospitals became overcrowded In one hospital with 1400 patients the staff at first consisted of 6 doctors and 12 nurses, but typhus killed 3 of the former and 8 of the latter, so that eventually only 3 doctors and 4 nurses were available for 1400 patients At the date of the report the number of cases in this epidemic had not been published, but in February 1915 it was stated that 500 typhus deaths were occurring daily In an article published in England last August it was estimated that during the six months' duration of the Serbian epidemic about 80,000 persons were attacked It is hoped that the crisis has now been passed and that this terrible epidemic is dying out Dr Low gives interesting and full details of typhus incidence in several other European and Asiatic countries and for those reference must be made to the volume itself

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE undermentioned have been entered as Surgeons for temporary service in His Majesty's Fleet W F R Castle and D J Max

Fleet Surgeon S Croneen has been placed on the Retired List with a gratuity

ARMY MEDICAL SERVICE

Lieutenant Colonel T P Silver to be temporary Colonel whilst Assistant Director of Medical Services of a Division

Colonel C E Nichol C M G, D S O on completion of four years service in his rank is retained on the Active List

ROYAL ARMY MEDICAL CORPS

G A Bannatyne to be temporary Lieutenant Colonel whilst employed at the Bath War Hospital

H A Powell to be temporary Honorary Lieutenant Colonel whilst employed at the Guildford War Hospital

Temporary Honorary Major Sir John Collie to be temporary Honorary Lieutenant-Colonel

T E Holmes to be temporary Major whilst employed at the Bagthorpe War Hospital

Temporary Captain S Fleming to be temporary Major

B Hudson to be temporary Honorary Major whilst serving with No 2 Red Cross Hospital

Temporary Captain L Maclagan Wedderburn relinquishes his commission

The undermentioned temporary Lieutenants to be temporary Captains S D Fairweather, E Taunton, J Caton Shelmerdine, E S Gooddy G M Mayberry, J Kirton, H Peters, W F Morgan, R Condy, E B Leech, B Wallace, H E Gamlen, E L Horsburgh, T T Higgins G B Macgregor T Lovett, S C Westwood, A. Merrin M A Swan, E S B Eames, G A Borthwick H L Mann, H W Ward M J Mottram, D F Shearer, J F Steven, D S O, A C Giles, J Ferguson, L H C Birkbeck T J S Moffett, R C Matson, E C Hardwicke, S J Henry, S W Coffin, L G Brown, P E Lones, R J McN Love, P W McKeag, A Paterson, J McCulloch, F D Atkins, J T Gunn, J R Murray, C T Neve, V J Woolley, H G Oliver J J Crawford, J McDonnell, J S Taylor, R A Steven, F E R Laborda, C McShane, and H H Sampson

The undermentioned to be temporary Lieutenants —E K. Williams, J McHaffie, C D Coyle, N Garrard, L G Reynolds, H Mohan, J J Tate, G L Pillans W L Paterson D J Bedford, E L Hopkins L J O'Donovan, A F Wilson Gunn W H Pearse J R Brown, C B Tudehope A Traill, M Moran L M Mavers A R Mitchell, W O Welply, J A West, and S McNaughton

The undermentioned to be temporary Honorary Lieutenants —A W Adams, N M Cummins, W L Thomas, L ap I Davies, and T Anwyl Davies

The undermentioned temporary Lieutenants relinquish their commissions —J G S Macpherson, H Porter, J A Cowie, W Irving, E Johnson A L Grant H A Sharman, J H J V Coats A C Sandston G H F Graves, W S Baird, E W H Cruickshank, L Pern A W C Lindsay, C H L Rixon, L S Morgan, and W H Lambert (on account of ill health)

Canadian Army Medical Corps Majors to be temporary Lieutenant-Colonels J E Davey and P G Goldsmith Captains to be temporary Majors L W MacNutt, J G Hunt and A S Donaldson Lieutenants to be temporary Captains R Brault and S Traynor Lieutenants to be temporary Lieutenants R P Smith and W M McLaren

South African Medical Corps To be temporary Lieutenant Colonels P G Stock (Officer of the Permanent Defence Force) A B Ward, G H Usmar, and G R Thomson To be temporary Majors T L Sandes R N Pringle C M Murray, R A St Leger, H C Baker, E F B Wilson, E N Thornton, M S Power J C A Rigby, and M G Pearson To be temporary Captains W L Gordon H R Lawrence T S Liebson, J Grainger, A G Forbes, G J Joubert I W Welsh, C M N May M B Lawrie P J Monaghan H E H Oakley Brebner E B Brooke, R D Parker F W A R Friel W Thomas, A S Wilson, J Drummond, F W Dyer, and G H Coke

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

Lieutenant (on probation) A A Duffus resigns his commission

TERRITORIAL FORCE

Royal Army Medical Corps

London (City of London) Field Ambulance Captain I A Denne from Attached to Units other than Medical Units, to be Captain

Lowland Field Ambulance Lieutenant (temporary Captain) A MacInnes to be Captain

West Riding Field Ambulance Major W S Kerr to be temporary Lieutenant Colonel whilst in command of a Field Ambulance J M Pringle to be Lieutenant

Wessex Casualty Clearing Station Lieutenant C Telfer to be Captain W S Richardson to be Lieutenant

West Lancashire Field Ambulance A S Parkinson to be Lieutenant

South Midland Field Ambulance E G Anderson to be Lieutenant

London Sanitary Company Captain D P M Farquharson from Attached to Units other than Medical Units and Lieutenants A I Rayner C D Edwards and O Ca[illegible]n to be Captains W Johnstone to be Lieutenant

South Midland Casualty Clearing Station Major P S Hichens to be temporary Lieutenant Colonel whilst in command of a Casualty Clearing Station

East Anglian Field Ambulance Lieutenant I D Langdale Kelham to be Captain

Highland Field Ambulance Lieutenant C G Skinner to be Captain

Southern General Hospital Captain H B Whitehouse is seconded

Western General Hospital Lieutenant L Oldershaw to be Captain

East Lancashire Field Ambulance Lieutenant A B Thompson to be Captain

London (City of London) Sanitary Company Lieutenant G L Matthews to be Captain

Attached to Units other than Medical Units —To be Captains W L Griffiths, late Captain, R A.M C (T.F), and Lieutenant W P Tindal Atkinson

The Territorial Decoration has been conferred upon Major M J Mahony, R A.M C (T F), attached to the 9th Battalion Liverpool Regiment

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 95 English and Welsh towns with populations exceeding 50,000 persons at the last Census 7742 births and 5971 deaths were registered during the week ended Saturday March 11th The annual rate of mortality in these towns which had been 16 3, 15 7, and 17 8 per 1000 in the three preceding weeks, fell in the week under notice to 17 2 per 1000 of their aggregate population, estimated at 18,135,180 persons at the middle of the year 1914 During the first ten weeks of the current quarter the mean annual death rate in these towns averaged 15 3, against a corresponding rate of 14 7 per 1000 in London The annual death rate last week ranged from 8 8 in Edmonton, 8 9 in Wakefield, 9·9 in Newport (Mon), 10 4 in Walthamstow, and 10 6 in Southend-on Sea, to 23 5 in Bootle, 25 7 in Gloucester, 27·0 in Liverpool 28 6 in Carlisle, and 30 4 in Rochdale

The 5971 deaths from all causes were 205 below the number in the previous week and included 345 which were referred to the principal epidemic diseases, against 351 and 409 in the two preceding weeks Of these 345 deaths, 124 resulted from measles 85 from whooping-cough, 60 from infantile diarrhœal diseases, 54 from diphtheria 13 from scarlet fever, and 9 from enteric fever, but not one from small pox. The annual death rate from these diseases was equal to 1·0 against 1 2 per 1000 in the previous week. The deaths attributed to measles which had increased from 62 to 120 in the five preceding weeks, further rose to 124, and caused the highest annual death rates of 2·6 in Stockton on Tees, 3 3 in Grimsby, 5 1 in Southport 5 5 in Rochdale, and 6·0 in Swansea The deaths referred to whooping cough, which had been 133 116 and 114 in the three preceding weeks, further declined to 85 of which 17 occurred in London 10 in Manchester, 8 in Birmingham and 4 each in Portsmouth and Liverpool The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 73 57 and 65 in the three preceding weeks fell to 60 and included 19 in London 6 in Manchester and 3 each in Leicester and Liverpool The deaths attributed to diphtheria, which had been 61, 56 and 82 in the three preceding weeks, fell to 54, of which 13 belonged to London and 3 each to Tottenham Stoke-on Trent, and Birmingham The deaths referred to scarlet fever, which had been 25 14 and 17 in the three preceding weeks fell to 14 and included 3 in London The 9 fatal cases of enteric fever, of which 2 occurred in London were equal to the average in the earlier weeks of the quarter

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had declined from 2257 to 1939 in the six preceding weeks further fell to 1908 on Saturday last, 216 new cases were admitted during the week against 215 194 and 234 in the three preceding weeks These hospitals also contained on Saturday last 1512 cases of diphtheria 205 of whooping-cough 101 of measles and 54 of enteric fever but not one of small pox The 1465 deaths from all causes in London were 66 fewer than the number in the previous week, and corresponded to an annual death rate of 16·9 per 1000 The deaths referred to diseases of the respiratory system, which had increased from 224 to 373 in the five preceding weeks fell to 344 in the week under notice and were 98 below the number registered in the corresponding week of last year

Of the 5971 deaths from all causes in the 96 towns 226 resulted from violence and 470 were the subject of coroners' inquests while 1847 occurred in public institutions The causes of 67 or 1 1 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Sheffield Leeds Bristol, West Ham, Bradford, Hull and in 62 other smaller towns Of the 67 uncertified causes 17 were registered in Birmingham 8 in Liverpool 5 in Manchester, and 3 each in Leicester, Bootle, and Rochdale

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2,355,300 persons at the middle of this year, 1056 births and 846 deaths were registered during the week ended Saturday, March 11th The annual rate of mortality in these towns, which had been 15 5 16 2 and 16 2 per 1000 in the three preceding weeks rose to 18 7 per 1000 in the week under notice During the first ten weeks of the current quarter the mean annual death rate in these towns averaged 15 7, or 0·4 per 1000 higher than that recorded in the large English towns The annual death rate last week ranged from 6 2 in Motherwell 9 3 in Ayr, and 10 3 in Clydebank, to 22·9 in Coatbridge, 26 3 in Paisley, and 29 1 in Falkirk.

The 846 deaths from all causes were 116 in excess of the number in the previous week, and included 64 which were referred to the principal epidemic diseases, against numbers declining from 71 to 56 in the four preceding weeks Of these 64 deaths, 31 resulted from measles, 8 from infantile diarrhœal diseases, 7 each from whooping cough and diphtheria, 6 from scarlet fever, and 5 from enteric fever, but not one from small pox. The death rate from these diseases was equal to 1 4 against 1 0 per 1000 in the large English towns The deaths attributed to measles, which had been 34, 28, and 23 in the three preceding weeks, rose to 31, and included 15 in Glasgow, 6 in Coatbridge, and 3 each in Edinburgh and Greenock The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 6, 8, and 8 in the three preceding weeks, were again 8 last week and included 2 each in Glasgow, Edinburgh and Aberdeen The fatal cases of diphtheria, which had been 15, 8, and 10 in the three preceding weeks, fell to 7, of which 4 occurred in Glasgow The 7 deaths attributed to whooping cough were 4 in excess of the average in the earlier weeks of the quarter, and comprised 6 in Glasgow and 1 in Hamilton The deaths referred to scarlet fever, which had been 11, 15, and 9 in the three preceding weeks, further fell to 6 of which 5 were recorded in Glasgow and 1 in Paisley Of the 5 fatal cases of enteric fever 4 occurred in Glasgow and 1 in Dundee

The deaths referred to diseases of the respiratory system, which had been 88, 126, and 134 in the three preceding weeks further rose to 169 in the week under notice, but were 46 below the number registered in the corresponding week of last year The deaths from violence numbered 29, against 30 and 21 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 19 town districts of Ireland with populations exceeding 10,000 persons at the last Census, 523 births and 474 deaths were registered during the week ended Saturday, March 4th The annual rate of mortality in these towns, which had been 20 2 18 8 and 18·0 per 1000 in the three preceding weeks, rose in the week under notice to 21 5 per 1000 of their aggregate population, estimated at 1 148,468 persons at the middle of last year During the first nine weeks of the current quarter the mean annual death rate in these towns averaged 19·0 against corresponding rates of 15 1 and 15 3 per 1000 in the English and Scotch towns respectively The death rate during the week was equal to 23 6 in Dublin (against 17 7 in London and 16 6 in Glasgow) 20 8 in Belfast, 15 6 in Cork 12 7 in Londonderry, 25 7 in Limerick, and 17 1 in Waterford while in the 13 smaller towns the mean rate was 22·9 per 1000

The 474 deaths from all causes were 77 in excess of the number in the previous week, and included 43 which were referred to the principal epidemic diseases against 30 and 29 in the two preceding weeks Of these 43 deaths 12 each resulted from measles and infantile diarrhœal diseases 11 from whooping-cough 3 each from scarlet fever and diphtheria and 2 from enteric fever, but not one from small pox. The death rate from these diseases was equal to 2·0 against a corresponding rate of 1 2 per 1000 in the English and in the Scotch towns The deaths attributed to measles which had been 10, 9 and 9 in the three preceding weeks rose to 12, and comprised 8 in Belfast and 4 in Dublin The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 4 5 and 7 in the three preceding weeks further rose to 12 and included 5 in Dublin and 4 in Belfast The fatal cases of whooping-cough, which had been 12, 11 and 7 in the three preceding weeks rose to 11 and comprised 8 in Belfast and 3 in Dublin The 3 deaths attributed to scarlet fever, of which 2 were recorded in Belfast and 1 in Londonderry were equal to the average in the earlier weeks of the quarter Of the 3 deaths from diphtheria 2 were recorded in Dublin and 1 in Waterford The fatal cases of enteric fever occurred in Dublin and Lisburn

The deaths referred to diseases of the respiratory system, which had been 83, 68, and 92 in the three preceding weeks rose to 95 in the week under notice, but were 85 below the number registered in the corresponding week of last year Of the 474 deaths from all causes, 157, or 33 per cent, occurred in public institutions, and 8 resulted from violence The causes of 20, or 4·2 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Dublin, 4 in Belfast, and 3 each in Limerick and Wexford, in the large English towns the proportion of uncertified causes did not exceed 1·0 per cent.

In the 19 town districts of Ireland, 538 births and 540 deaths were registered during the week ended Saturday, March 11th The annual rate of mortality in these towns, which had been 18·8, 18·0, and 21·5 per 1000 in the three preceding weeks further rose to 24·5 per 1000 in the week under notice During the first 10 weeks of the current quarter the mean annual death rate in these towns averaged 19·6, against corresponding rates of 15·3 and 15·7 per 1000 in the English and Scotch towns respectively The death rate during the week was equal to 26·8 in Dublin (against 16·9 in London and 19·1 in Glasgow), 22·5 in Belfast 24·5 in Cork, 13·9 in Londonderry, 33·8 in Limerick, and 20·9 in Waterford, while in the 13 smaller towns the mean rate was 24·9 per 1000

The 540 deaths from all causes exceeded the number in the previous week by 66, and included 51 which were referred to the principal epidemic diseases, against 29 and 43 in the two preceding weeks Of these 51 deaths, 18 resulted from measles, 13 from infantile diarrhœal diseases, 10 from whooping-cough, 5 from diphtheria, 4 from scarlet fever, and 1 from enteric fever, but not one from small pox. The annual death rate from these diseases was equal to 2·3 against corresponding rates of 1·0 and 1·4 per 1000 in the English and Scotch towns respectively The deaths attributed to measles, which had been 9, 9, and 12 in the three preceding weeks, further rose to 18, and comprised 14 in Belfast and 2 each in Dublin and Newry The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 5, 7, and 12 in the three preceding weeks numbered 13, of which 7 occurred in Dublin and 4 in Belfast The fatal cases of whooping cough, which had been 11, 7, and 11 in the three preceding weeks, were 10 in the week under notice and included 5 in Belfast. The 5 deaths attributed to diphtheria of which 3 were recorded in Belfast, were 3 in excess of the average in the earlier weeks of the quarter The 4 fatal cases of scarlet fever were registered in Belfast, and that of enteric fever in Lisburn

The deaths referred to diseases of the respiratory system, which had been 68, 92 and 95 in the three preceding weeks further rose to 124 in the week under notice, but were 31 below the number registered in the corresponding week of last year Of the 540 deaths from all causes 155 or 29 per cent., occurred in public institutions, and 8 resulted from violence The causes of 23 or 4·3 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest and included 7 in Dublin and 3 in Limerick, in the large English towns the proportion of uncertified causes did not exceed 1·1 per cent

VITAL STATISTICS OF LONDON DURING THE YEAR 1915

In the accompanying table statistics of sickness and mortality in the City of London and in each of the metropolitan boroughs are summarised for the year 1915 With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to a rate of 7·1 per 1000 of the population, estimated at 4,516,612 persons, in the three preceding years the rates had been 5·1, 6·7, and 9·0 per 1000 respectively Among the various boroughs the rates last year ranged from 4·5 in Kensington, 4·7 in Hampstead, 4·9 in St Marylebone, 5·0 in Chelsea, and 5·1 in Lewisham, to 9·0 in Greenwich, 9·1 in Woolwich, 10·0 in Shoreditch, 11·1 in Stepney, and 12·4 in Bethnal Green Eleven cases of small pox were notified last year, against none in the preceding year, but no cases remained under treatment in the Metropolitan Asylums Hospitals at the end of the year Of these 11 cases 6 belonged to Fulham, 2 to Greenwich, and 1 each to Kensington Bethnal Green, and Stepney The prevalence of scarlet fever showed a considerable decline last year, 17,104 cases were

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1915

(*Specially compiled for* THE LANCET)

Cities and Boroughs	Estimated population in the middle of 1914	Notified Cases of Infectious Disease.												Deaths from Principal Infectious Diseases.									Deaths from all causes	Death rate per 1000 living †
		Small pox	Scarlet fever	Diphtheria *	Typhus fever	Enteric fever	Other continued fevers	Puerperal fever	Erysipelas	Cerebro-spinal meningitis	Poliomyelitis	Total	Annual rate per 1000 persons living	Small pox	Measles	Scarlet fever	Diphtheria *	Whooping-cough	Enteric fever	Diarrhœa and enteritis (under 2 years)	Total	Annual rate per 1000 persons living		
LONDON	4,616,612	11	17,104	9166	5	617	12	276	3894	701	93	31,914	7·1	3	2272	332	699	1146	120	2342	7114	1·6	72,339	15·1
West Districts																								
Paddington	142,056	—	435	282	—	18	2	7	139	14	1	895	6·3	—	93	11	20	31	6	91	252	1·8	2,2[illegible]	15·9
Kensington	170,817	1	425	174	—	20	1	11	83	40	1	762	4·5	—	111	11	16	21	2	[illegible]	23[illegible]	1·4	2,007	[illegible]
Hammersmith	124,750	—	427	186	—	23	—	5	9	30	8	773	6·2	—	47	13	14	27	2	4	14[illegible]	1·2	1,912	15·3
Fulham	158,843	6	619	271	—	14	—	24	92	20	2	1,04[illegible]	6·6	3	122	20	27	56	5	7	30	1·9	2,31[illegible]	15·3
Chelsea	63,791	—	144	105	—	19	—	5	33	10	3	319	5·0	—	40	5	6	8	—	1	76	1·2	1,11[illegible]	16·6
City of Westminster	152,346	—	614	325	—	13	—	9	74	26	—	1,061	7·0	—	33	11	12	11	4	3[illegible]	115	0·8	2,225	15·5
North Districts																								
St Marylebone	112,892	—	306	139	—	12	1	3	84	10	1	555	4·9	—	53	9	8	16	2	4[illegible]	134	1·2	1,70[illegible]	15·4
Hampstead	86,731	—	192	133	—	12	—	3	52	10	2	409	4·7	—	2[illegible]	2	10	6	1	1[illegible]	59	0·7	1,01[illegible]	12·[illegible]
St Pancras	218,[illegible]7	—	1,009	41[illegible]	—	35	—	13	234	37	8	1,747	8·2	—	61	22	24	51	8	1[illegible]	271	1·3	3,52[illegible]	16·6
Islington	324,764	—	1,332	626	—	27	—	23	233	40	15	2,265	7·0	—	152	40	53	10[illegible]	6	1[illegible]	57[illegible]	1·6	5,55[illegible]	15·5
Stoke Newington	50,454	—	199	107	—	4	—	2	39	3	2	356	7·1	—	24	7	9	7	2	[illegible]	5[illegible]	1·1	77[illegible]	14·7
Hackney	223,724	—	762	407	—	40	2	9	223	36	—	1,479	6·6	—	67	7	29	4[illegible]	6	1[illegible]	274	1·2	3,259	14·7
Central Districts																								
Holborn	45,861	—	159	70	—	6	—	2	2	12	—	277	6·1	—	10	1	11	12	1	1[illegible]	57	1·2	75[illegible]	16·[illegible]
Finsbury	83,212	—	441	133	—	6	—	6	57	10	—	653	7·[illegible]	—	51	10	9	4[illegible]	1	8[illegible]	202	2·4	1,6[illegible]3	19·3
City of London	17,129	—	59	53	—	3	—	—	5	1	1	11[illegible]	6·9	—	4	—	3	1	—	[illegible]	11	0·6	30[illegible]	15·3
East Districts																								
Shoreditch	108,869	—	50[illegible]	2[illegible]	—	22	2	9	1[illegible]3	39	1	1,0[illegible]3	10·0	—	80	11	22	3[illegible]	3	1[illegible]	27[illegible]	2·5	2,052	1[illegible]·5
Bethnal Green	127,652	1	735	53[illegible]	—	13	—	9	19[illegible]	24	7	1,[illegible]	12·4	—	101	11	33	41	4	1[illegible]	331	2·6	2,11[illegible]	17·[illegible]
Stepney	273,265	1	1,534	1111	4	33	1	13	29[illegible]	2[illegible]	5	3,03[illegible]	11·1	—	111	29	72	53	3	23[illegible]	[illegible]	1·6	4,6[illegible]3	17·[illegible]
Poplar	160,222	—	475	307	—	16	—	13	16[illegible]	22	5	1,02[illegible]	6·4	—	118	9	31	72	[illegible]	17	11[illegible]	2·6	3,[illegible]	1[illegible]
South Districts																								
Southwark	[illegible]	—	457	32[illegible]	—	23	1	25	205	25	1	1,187	6·[illegible]	—	151	12	37	[illegible]	3	1	377	2·0	3,[illegible]	[illegible]·1
Bermondsey	124,213	—	357	225	—	21	1	7	125	13	2	7[illegible]	6·[illegible]	—	110	9	21	7[illegible]	3	13	3[illegible]	2·5	2,[illegible]	[illegible]·2
Lambeth	2[illegible]6,72[illegible]	—	904	437	—	33	—	27	150	41	5	1,6[illegible]7	5·[illegible]	—	102	19	45	[illegible]	13	1[illegible]	3[illegible]	1·2	[illegible]	1[illegible]
Battersea	167,333	—	672	3[illegible]	—	[illegible]	—	5	14	26	11	1,[illegible]77	7·7	—	15[illegible]	9	29	71	6	7	3[illegible]	2·2	2,[illegible]	1[illegible]·1
Wandsworth	33[illegible]	—	1,321	7[illegible]2	1	51	—	11	191	51	11	2,[illegible]	[illegible]	—	1[illegible]	22	34	7[illegible]	9	11	[illegible]	1·[illegible]	4,1[illegible]	1[illegible]
Camberwell	2[illegible]2,020	—	851	40[illegible]	—	25	1	16	210	24	1	1,53[illegible]	5·4	—	95	8	30	4	6	1[illegible]	325	1·2	3,[illegible]	1[illegible]
Deptford	109,182	—	[illegible]	20[illegible]	—	37	—	4	1[illegible]	15	2	[illegible]	7·[illegible]	—	55	9	10	6	4	[illegible]	2[illegible]	2·2	1,9[illegible]	1[illegible]
Greenwich	95,037	2	522	173	—	29	—	4	112	22	—	8[illegible]	9·0	—	46	3	14	43	8	[illegible]	1[illegible]	1·7	1,7[illegible]	1[illegible]
Lewisham	172,[illegible]33	—	47[illegible]	2[illegible]3	—	16	—	[illegible]	10	13	1	8[illegible]	5·[illegible]	—	51	5	15	2	3	2	1[illegible]3	0·8	2,1[illegible]	1[illegible]
Woolwich	122,8[illegible]6	—	[illegible]	237	—	32	—	6	137	49	2	1,11[illegible]	9·1	—	4[illegible]	7	[illegible]	1[illegible]	5	31	12[illegible]	1·0	1,[illegible]	1[illegible]·3
Port of London	—	—	4	1	—	7	—	—	5	1	—	15	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup † The death rates are corrected for variations in sex and age constitution of the populations of the several boroughs the population of England and Wales being taken as the standard

notified, against 17,552 and 25,015 in the two preceding years. Among the metropolitan boroughs the greatest proportional prevalence of this disease was recorded in Finsbury, Shoreditch, Bethnal Green, Stepney, and Greenwich. The Metropolitan Asylums Hospitals contained 2431 scarlet fever patients at the end of last year, against 2088, 3810 and 4431 at the end of the three preceding years. 16,327 cases were admitted during the year against 10,488, 16,255, and 23,154 in the three preceding years. Diphtheria was rather more prevalent than it had been in either of the two preceding years. 9166 cases were notified during the year, against 7654 and 9118 in the two preceding years. This disease was proportionally most prevalent last year in Bethnal Green, Stepney, the City of London, Shoreditch, and Battersea. The number of diphtheria patients remaining under treatment in the Metropolitan Asylums Hospitals at the end of last year was 1476, against 1099 and 1653 at the end of the two preceding years. 8608 new cases were admitted during the year, against 6814 and 8444 in the two preceding years. Enteric fever was slightly more prevalent than it had been in either of the two preceding years, 647 new cases being notified, against 758 and 779 respectively. The greatest proportional prevalence of this disease was recorded last year in Chelsea, Shoreditch, Deptford, Greenwich and Woolwich. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during last year was 446, against 381, 415, and 470 in the three preceding years, the number of cases remaining under treatment at the end of the year was 50, against 51 and 68 in the two preceding years. The greatest proportional prevalence of erysipelas occurred in Shoreditch, Bethnal Green, Stepney, Southwark, Deptford and Greenwich. The 276 cases of puerperal fever notified during the year included 27 in Lambeth, 26 in Southwark, 24 in Fulham, and 23 in Islington. Of the 701 cases of cerebro-spinal meningitis 51 belonged to Wandsworth, 49 to Woolwich, 44 to Lambeth, 40 each to Kensington and Islington, 39 to Shoreditch, 37 to St. Pancras, and 36 to Hackney. The 98 cases of poliomyelitis included 15 in Islington, 11 each in Battersea and Wandsworth, 8 each in Hammersmith and St. Pancras, and 7 in Bethnal Green.

The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex and age-constitution of the populations of the several boroughs. During last year the deaths of 72,399 persons belonging to London were registered, equal to a death-rate of 16·1 per 1000; in the three preceding years the rates were 14·3, 14·2, and 14·4 per 1000 respectively. Among the several boroughs the lowest death-rates last year were 12·4 in Hampstead and in Lewisham, 12·5 in Wandsworth, 14·7 in Stoke Newington and in Hackney, and 14·8 in Camberwell; the highest rates were 18·6 in the City of London, 18·9 in Poplar, 19·5 in Shoreditch, 19·6 in Finsbury, 20·1 in Southwark, and 20·2 in Bermondsey. The deaths from all causes included 7114 which were referred to the principal infectious diseases; of these 3 resulted from small-pox, 2272 from measles, 332 from scarlet fever, 699 from diphtheria, 1146 from whooping-cough, 120 from enteric fever, and 2542 from diarrhœa and enteritis among children under two years of age. The death-rates from these diseases in the aggregate ranged from 0·6 in the City of London, 0·7 in Hampstead, 0·8 in the City of Westminster and in Lewisham, 1·0 in Woolwich, and 1·1 in Stoke Newington, to 2·2 in Battersea and in Deptford, 2·4 in Finsbury, 2·5 in Shoreditch, 2·6 in Bethnal Green and in Poplar, and 2·9 in Bermondsey. The 3 fatal cases of small-pox all belonged to Fulham. The 2272 fatal cases of measles were 416 more than the corrected average number in the five preceding years; of the total number 2056 were recorded in the first half of the year. This disease was proportionally most fatal last year in Fulham, Bethnal Green, Poplar, Southwark, Bermondsey, and Battersea. The 332 deaths from scarlet fever were 124 in excess of the corrected average number; this disease showed the greatest proportional mortality in Hammersmith, Fulham, St. Pancras, Islington, Stoke Newington, Finsbury, Shoreditch, and Stepney. The 699 fatal cases of diphtheria were 167 above the corrected average number; the highest death-rates from this disease were recorded in Holborn, Shoreditch, Bethnal Green, Stepney, Poplar, and Southwark. The 1146 deaths deaths from whooping-cough exceeded the average by 134; this disease was proportionally most fatal in Finsbury, Poplar, Bermondsey, Battersea, Deptford, and Greenwich. The 120 fatal cases of enteric fever were 26 below the corrected average number; the greatest proportional mortality from this disease was recorded in Paddington, Lambeth, Deptford, Greenwich, and Woolwich. The mortality from diarrhœa and enteritis among children under two years of age was greatest in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Bermondsey, and Deptford. In conclusion it may be stated that the aggregate mortality in London last year from the principal infectious diseases, excluding diarrhœa, was 21·8 per cent. above the average.

Correspondence.

"Audi alteram partem."

THE PRESENT POSITION OF MIDWIVES.

To the Editor of THE LANCET.

SIR,—If, as may be hoped, the recent leading article and correspondence in your columns on the midwives question should lead those interested to endeavour to improve the present position of midwives, there are some general considerations pertinent to the matter which have not, I think, received sufficient attention in the past. Without venturing to express an opinion on the vexed question as to whether ultimately the needs of parturient women will best be met by an adequate supply of midwives or of medical practitioners, male and female, I would venture to point out to those who are working to increase the supply and improve the status of midwives the importance of having regard to the following points.

1. It is nearly always easier to create an efficient supply by stimulating a demand than to work on converse lines. Hitherto the midwives' movement has been chiefly characterised by efforts to increase the supply. Philanthropists have been active in promoting institutions for the training of midwives and in enabling women too poor to pay the very moderate educational fees of these institutions to secure admission to the courses of instruction without payment. Compared with the self-sacrificing energy devoted to the creation of this supply, of what appears now largely to be regarded as an inefficient class of midwives, little has been done to create an economic demand for efficient midwives. By an economic demand is of course meant a demand by women who are economically capable of paying for the services they require. The demand which creates a supply is not a mere desire, but a desire backed by the financial power which enables it to be satisfied if and when the supply is provided. The desire of Belgium for food fails to create a supply because the Germans prevent this desire from being associated with a capacity to pay for the food that is needed. By a strange irony the institutions designed to create a supply of midwives actually diminish such small economic demand as already exists. In order to provide practical experience for their pupils most of these institutions accept for gratuitous treatment by their qualified staff parturient women whose economic position would enable them to pay the moderate fees charged by midwives in independent practice. If an adequate supply of efficient midwives is to be provided, maintained, and made use of, greater attention must be paid to the provision and maintenance of an adequate economic demand. The length of the warning that a woman receives before the services of a midwife are required should enable her, with such help as may be thought necessary, to be placed in an economic position to pay for efficient professional assistance at her confinement.

2. The sudden, irregular, and emergent character of the call upon a midwife's services makes it necessary either that her remuneration for these services should be based upon a recognition that much of her time is necessarily unemployed, or that it should be supplemented by payment for some other occupation of such a nature that it can be set aside whenever an urgent midwifery call comes. A doctor's midwifery fee is fixed on the

last year. Of the 474 deaths from all causes, 157, or 33 per cent., occurred in public institutions and 8 resulted from violence. The causes of 20, or 4·2 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Dublin, 4 in Belfast, and 3 each in Limerick and Wexford; in the large English towns the proportion of uncertified causes did not exceed 1·0 per cent.

In the 19 town districts of Ireland, 538 births and 540 deaths were registered during the week ended Saturday, March 11th. The annual rate of mortality in these towns, which had been 18·8, 18·0, and 21·5 per 1000 in the three preceding weeks, further rose to 24·5 per 1000 in the week under notice. During the first 10 weeks of the current quarter the mean annual death rate in these towns averaged 19·6, against corresponding rates of 15·3 and 15·7 per 1000 in the English and Scotch towns respectively. The death rate during the week was equal to 26·8 in Dublin (against 16·9 in London and 19·1 in Glasgow), 22·5 in Belfast, 24·5 in Cork, 13·9 in Londonderry, 33·8 in Limerick, and 20·9 in Waterford, while in the 13 smaller towns the mean rate was 24·9 per 1000.

The 540 deaths from all causes exceeded the number in the previous week by 66, and included 51 which were referred to the principal epidemic diseases, against 29 and 43 in the two preceding weeks. Of these 51 deaths, 18 resulted from measles, 13 from infantile diarrhœal diseases, 10 from whooping cough, 5 from diphtheria, 4 from scarlet fever, and 1 from enteric fever, but not one from small pox. The annual death rate from these diseases was equal to 2·3, against corresponding rates of 1·0 and 1·4 per 1000 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 9, 9, and 12 in the three preceding weeks, further rose to 18, and comprised 14 in Belfast and 2 each in Dublin and Newry. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 5, 7, and 12 in the three preceding weeks, numbered 13, of which 7 occurred in Dublin and 4 in Belfast. The fatal cases of whooping cough, which had been 11, 7, and 11 in the three preceding weeks, were 10 in the week under notice, and included 5 in Belfast. The 5 deaths attributed to diphtheria, of which 3 were recorded in Belfast, were 3 in excess of the average in the earlier weeks of the quarter. The 4 fatal cases of scarlet fever were registered in Belfast, and that of enteric fever in Lisburn.

The deaths referred to diseases of the respiratory system, which had been 68, 92, and 95 in the three preceding weeks, further rose to 124 in the week under notice, but were 31 below the number registered in the corresponding week of last year. Of the 540 deaths from all causes, 155, or 29 per cent., occurred in public institutions, and 8 resulted from violence. The causes of 23, or 4·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 7 in Dublin and 3 in Limerick; in the large English towns the proportion of uncertified causes did not exceed 1·1 per cent.

VITAL STATISTICS OF LONDON DURING THE YEAR 1915

In the accompanying table statistics of sickness and mortality in the City of London and in each of the metropolitan boroughs are summarised for the year 1915. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to a rate of 7·1 per 1000 of the population, estimated at 4,516,612 persons; in the three preceding years the rates had been 5·1, 6·7, and 9·0 per 1000 respectively. Among the various boroughs the rates last year ranged from 4·5 in Kensington, 4·7 in Hampstead, 4·9 in St. Marylebone, 5·0 in Chelsea, and 5·1 in Lewisham, to 9·0 in Greenwich, 9·1 in Woolwich, 10·0 in Shoreditch, 11·1 in Stepney, and 12·4 in Bethnal Green. Eleven cases of small pox were notified last year, against none in the preceding year, but no cases remained under treatment in the Metropolitan Asylums Hospitals at the end of the year. Of these 11 cases 6 belonged to Fulham, 2 to Greenwich, and 1 each to Kensington, Bethnal Green, and Stepney. The prevalence of scarlet fever showed a considerable decline last year, 17,104 cases were

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1915

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes	Death rate per 1000 living.†
		Small pox	Scarlet fever	Diphtheria.*	Typhus fever	Enteric fever	Other continued fevers.	Puerperal fever	Erysipelas	Cerebro-spinal meningitis	Poliomyelitis	Total	Annual rate per 1000 persons living	Small pox	Measles	Scarlet fever	Diphtheria.*	Whooping-cough	Enteric fever	Diarrhœa and enteritis (under 2 years)	Total	Annual rate per 1000 persons living		
LONDON	4 616,612	11	17,104	9166	5	617	12	276	3891	701	93	31 914	7 1	3	2272	332	699	1146	120	[illegible]	7114	1 6	72,339	15 1
West Districts																								
Paddington	142 0[illegible]5	—	435	282	—	18	2	7	139	14	1	698	6 3	—	93	11	20	31	6	9[illegible]	25[illegible]	1 8	2,2[illegible]	[illegible]
Kensington	170 817	1	426	174	—	20	1	11	88	40	1	762	4 5	—	111	11	16	21	2	6[illegible]	23[illegible]	1 4	[illegible]	[illegible]
Hammersmith	124 750	—	427	166	—	23	—	5	9[illegible]	30	8	773	6 2	—	47	13	14	27	2	4	14[illegible]	1 2	1,912	15 3
Fulham	153 843	6	619	271	—	14	—	24	92	20	2	1 [illegible]4	6 6	3	122	20	27	50	5	7	30	1 9	2,315	1[illegible] 3
Chelsea	63 791	—	144	105	—	19	—	5	33	10	3	319	5 0	—	40	5	6	8	—	1[illegible]	76	1 2	1 11[illegible]	1[illegible] 6
City of Westminster	152 346	—	614	325	—	13	—	9	74	[illegible]	—	1 061	7 [illegible]	—	33	11	12	11	4	3[illegible]	11[illegible]	0 8	[illegible]	15 5
North Districts																								
St Marylebone	112,892	—	306	138	—	12	1	3	84	10	1	555	4 9	—	53	9	8	16	2	4[illegible]	134	1 2	1 7[illegible]	15 4
Hampstead	86 731	—	192	133	—	12	—	3	62	10	2	4[illegible]9	4 7	—	2[illegible]	2	10	[illegible]	1	1[illegible]	[illegible]	0 7	1 014	12 4
St Pancras	212 497	—	1 009	41[illegible]	—	35	—	13	204	37	8	1 74[illegible]	8 2	—	64	22	2[illegible]	51	8	1[illegible]	271	1 3	[illegible]	[illegible]
Islington	324 764	—	1,332	626	—	27	—	23	233	40	15	2,260	[illegible]	—	15[illegible]	40	53	105	6	1[illegible]	5[illegible]	1 6	5 [illegible]	16 8
Stoke Newington	50,451	—	199	107	—	4	—	2	39	3	2	[illegible]	7 1	—	2[illegible]	7	9	7	2	[illegible]	56	1 1	77[illegible]	1[illegible] 7
Hackney	223 724	—	762	407	—	40	2	9	223	36	—	1 47[illegible]	6 6	—	67	7	29	4[illegible]	6	12[illegible]	274	1 2	3 2[illegible]	14 7
Central Districts																								
Holborn	45 861	—	159	70	—	6	—	2	2[illegible]	12	—	277	6 1	—	19	1	11	12	1	1[illegible]	57	1 2	7[illegible]9	[illegible]
Finsbury	83 212	—	441	133	—	6	—	6	57	10	—	65[illegible]	7 9	—	51	10	9	[illegible]	1	8[illegible]	202	2 4	1,643	19 3
City of London	17 129	—	58	50	—	3	—	—	5	1	1	11[illegible]	6 [illegible]	—	4	—	3	1	—	[illegible]	11	0 6	30[illegible]	15 [illegible]
East Districts																								
Shoreditch	108,863	—	5[illegible]	271	—	22	2	9	1[illegible]3	39	1	1 0[illegible]3	10 [illegible]	—	60	11	[illegible]2	3[illegible]	3	1[illegible]	270	2 5	2 [illegible]52	13 5
Bethnal Green	127 682	1	73[illegible]	53[illegible]	—	19	—	9	19[illegible]	24	7	[illegible]	12 4	—	101	11	3[illegible]	41	4	1[illegible]	331	2 6	2 11[illegible]	17 3
Stepney	273 26[illegible]	1	1 534	1111	4	33	1	13	2[illegible]	2	5	3 03[illegible]	11 1	—	111	29	72	5[illegible]	3	[illegible]	[illegible]	1 8	[illegible]	17 [illegible]
Poplar	16[illegible] 222	—	47[illegible]	307	—	18	—	13	16[illegible]	22	5	1 [illegible]	6 4	—	118	9	34	7[illegible]	[illegible]	17[illegible]	[illegible]11	2 6	3,[illegible]	[illegible]
South Districts																								
Southwark	1[illegible]5 911	—	457	33[illegible]	—	23	1	25	2[illegible]5	2[illegible]	1	1 157	6 [illegible]	—	131	12	37	[illegible]	3	1	3[illegible]	2 0	3,7[illegible]	[illegible]
Bermondsey	124 213	—	357	225	—	21	1	7	12[illegible]	13	2	[illegible]	6 [illegible]	—	11[illegible]	9	21	7[illegible]	3	1[illegible]	3[illegible]	[illegible]	[illegible]	[illegible]
Lambeth	2[illegible]6,724	—	904	431	—	33	—	27	150	41	5	1 [illegible]77	5 [illegible]	—	102	19	45	[illegible]	13	1	[illegible]	1 2	[illegible]	[illegible]
Battersea	167 5[illegible]	—	672	3[illegible]	—	27	—	5	14[illegible]	26	11	1 [illegible]77	7 7	—	16	9	29	[illegible]	6	7	[illegible]	2 2	[illegible]	[illegible]
Wandsworth	33[illegible] 9[illegible]0	—	1,321	7[illegible]	1	51	—	11	191	51	11	2 [illegible]	7 [illegible]	—	105	22	[illegible]	[illegible]	9	11[illegible]	[illegible]	1 3	[illegible]	[illegible]
Camberwell	262,020	—	8[illegible]1	40[illegible]	—	[illegible]	1	15	210	24	1	1 53[illegible]	5 9	—	9[illegible]	8	30	[illegible]	6	1	3[illegible]	1 2	39[illegible]	[illegible]
Deptford	109 182	—	433	40[illegible]	—	37	—	4	15	15	2	[illegible]	[illegible]	—	5[illegible]	9	1[illegible]	6[illegible]	[illegible]	[illegible]	2[illegible]	2 2	[illegible]	17 7
Greenwich	95,037	2	[illegible]22	173	—	2[illegible]	—	4	112	22	—	[illegible]	[illegible]	—	4[illegible]	3	14	43	8	4[illegible]	1[illegible]	1 7	1 71[illegible]	[illegible]
Lewisham	172,433	—	[illegible]	2[illegible]3	—	1[illegible]	—	4	10	13	1	[illegible]	5 1	—	[illegible]1	5	15	2	3	2	1 3	0 8	2,1[illegible]	[illegible]
Woolwich	122,836	—	622	2[illegible]7	—	32	—	6	137	69	2	1 115	9 1	—	45	7	20	1[illegible]	5	[illegible]	1[illegible]	1 0	1,5[illegible]	[illegible]
Port of London	—	—		1	—	7	—	—	5	1	—	15	—	—	—	—	—	—	—	—	—	—	—	—

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* Including membranous croup. † The death rates are corrected for variations in sex and age constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

notified, against 17,552 and 25,015 in the two preceding years Among the metropolitan boroughs the greatest proportional prevalence of this disease was recorded in Finsbury, Shoreditch, Bethnal Green, Stepney, and Greenwich The Metropolitan Asylums Hospitals contained 2431 scarlet fever patients at the end of last year, against 2038, 3810 and 4431 at the end of the three preceding years, 16,327 cases were admitted during the year against 10,488 16,255, and 23,154 in the three preceding years Diphtheria was rather more prevalent than it had been in either of the two preceding years 9166 cases were notified during the year, against 7654 and 9118 in the two preceding years This disease was proportionally most prevalent last year in Bethnal Green, Stepney the City of London, Shoreditch, and Battersea. The number of diphtheria patients remaining under treatment in the Metropolitan Asylums Hospitals at the end of last year was 1476, against 1099 and 1663 at the end of the two preceding years 8608 new cases were admitted during the year, against 6814 and 8444 in the two preceding years Enteric fever was slightly more prevalent than it had been in either of the two preceding years, 647 new cases being notified, against 758 and 779 respectively The *greatest* proportional prevalence of this disease was recorded last year in Chelsea, Shoreditch, Deptford, Greenwich and Woolwich The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals during last year was 446, against 331, 415, and 470 in the three preceding years, the number of cases remaining under treatment at the end of the year was 50, against 51 and 68 in the two preceding years The greatest proportional *prevalence* of erysipelas occurred in Shoreditch Bethnal Green, Stepney, Southwark, Deptford, and *Greenwich* The 276 cases of puerperal fever notified during the year included 27 in Lambeth 26 in Southwark, 24 in Fulham, and 23 in Islington Of the 701 cases of cerebro-spinal meningitis 51 belonged to Wandsworth, 49 to Woolwich, 44 to Lambeth, 40 each to Kensington and Islington, 39 to Shoreditch, 37 to St Pancras, and 36 to Hackney The 98 cases of poliomyelitis included 15 in Islington, 11 each in Battersea and Wandsworth, 8 each in Hammersmith and St Pancras, and 7 in Bethnal Green

The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously *resided*, the death rates from all causes are further corrected for variations in the sex and age-constitution of the populations of the several boroughs During last year the deaths of 72,399 persons belonging to London were registered, equal to a death rate of 16 1 per 1000, in the three preceding years the rates were 14 3, 14 2, and 14 4 per 1000 respectively Among the several boroughs the lowest death rates last year were 12 4 in Hampstead and in Lewisham 12 5 in Wandsworth, 14 7 in Stoke Newington and in Hackney, and 14 8 in Camberwell, the highest rates were 18 8 in the City of London, 18·9 in Poplar 19 5 in Shoreditch 19 6 in Finsbury 20·1 in Southwark and 20 2 *in* Bermondsey The deaths from all causes included 7114 which were referred to the principal infectious *diseases*, *of these*, 3 resulted from small pox, 2272 from measles, 332 from scarlet fever 699 *from* diphtheria 1146 from whooping-cough 120 from enteric fever and 2542 from diarrhœa and enteritis among children under two years of age The death rates from these diseases in the aggregate *ranged* from 0·6 in the City of London, 0 7 in Hampstead, 0 8 in the City of Westminster and in *Lewisham*, *1·0 in* Woolwich and 1 1 in Stoke Newington to 2 2 in Battersea and in Deptford, 2 4 in *Finsbury* 2 5 in Shoreditch, 2 6 in Bethnal Green and in Poplar, and 2·9 in Bermondsey The 3 fatal cases of small pox all belonged to Fulham The 2272 fatal cases of measles were 416 more than the corrected average number in the five preceding years, of the total number 2066 were recorded in the first half of the year This disease was proportionally most fatal last year in Fulham, Bethnal Green Poplar, Southwark Bermondsey and Battersea The 332 deaths from scarlet fever were 124 in excess of the corrected average number, this disease showed the greatest proportional *mortality* in Hammersmith, Fulham St Pancras Islington, Stoke Newington Finsbury, Shoreditch and *Stepney* The *693* fatal cases of diphtheria were 167 above the corrected average number, the highest death rates from this disease were recorded in Holborn Shoreditch, Bethnal Green, Stepney, Poplar and South-wark The 1146 deaths deaths from whooping cough exceeded the average by 134 this disease was proportionally most fatal in Finsbury Poplar Bermondsey Battersea Deptford, and Greenwich The 120 fatal cases of enteric fever were 26 below the corrected average number the greatest proportional mortality from this disease was recorded in Paddington Lambeth, *Deptford*, Greenwich, and Woolwich The mortality from diarrhœa and enteritis among children under two years of age was greatest in Finsbury, Shoreditch Bethnal Green Stepney, Poplar Bermondsey and Deptford In conclusion it may be stated that the aggregate mortality in London last year from *the* principal infectious diseases excluding diarrhœa, was 21 8 per cent above the average

Correspondence.

"Audi alteram partem"

THE PRESENT POSITION OF MIDWIVES

To the Editor of THE LANCET

SIR,—If, as may be hoped, the recent leading article and correspondence in your columns on the midwives question should lead those interested to endeavour to improve the present position of midwives, there are some general considerations pertinent to the matter which have not, I think, received sufficient attention in the past. Without venturing to express an opinion on the vexed question as to whether ultimately the needs of parturient *women will best be met by* an adequate supply of midwives or of medical practitioners, male and female, I would venture to point out to those who are working *to increase* the supply and improve the status of midwives the importance of having regard to the *following* points

1 It is nearly always easier to create an efficient supply by stimulating a demand than to work on converse lines Hitherto the midwives' movement has been chiefly characterised by efforts to increase the supply Philanthropists have been active in promoting institutions for the training of midwives and in enabling women too poor to pay the very moderate educational fees of these institutions to secure admission to the courses of instruction *without payment* Compared with the self sacrificing energy devoted *to the creation of* this supply, of what appears now largely to be regarded as an inefficient class of midwives, little has been done to create an economic demand for efficient midwives By an economic demand is of course meant a demand by women who are economically capable of paying for the services they require The demand which creates a supply is not a mere desire, but a desire backed by the financial power which *enables* it *to* be satisfied if and when the supply is provided The desire of Belgium for food fails to create a supply because the Germans prevent this desire from being associated with a *capacity* to pay for the food that is needed By a strange irony the institutions designed to create a supply of midwives *actually* diminish such small economic demand as already exists In order to provide practical experience for their pupils most of these institutions accept for gratuitous treatment by their qualified staff parturient women whose *economic* position would enable them to pay the moderate fees charged by midwives in independent practice If an adequate supply of *efficient* midwives is to be provided, maintained, and made *use of*, greater attention must be paid to the provision and *maintenance* of an adequate economic demand The length of the warning that a woman receives before the services of a midwife *are required* should enable her, with such help as may be thought *necessary*, to be placed in an economic *position to pay* for efficient professional assistance at her confinement.

2 The *sudden*, *irregular*, and emergent character of the call upon a *midwife's* services makes it necessary either that her remuneration for these services should be based upon a recognition that much of her time is necessarily unemployed, or that it should be *supplemented* by payment for some other occupation of such a nature that it can be set aside whenever *an* urgent midwifery call comes. A doctor's midwifery fee is fixed *on* the

basis that he or she is also engaged in and being paid for work as a general medical practitioner If he were not so engaged the midwifery fee would need to be considerably larger You, Sir, in your leading article suggest that perhaps the midwife's case could be met by her practising also as a visiting nurse Whether this is a wise or safe arrangement would need discussion by experts in obstetrics and nursing The suggestion would seem to indicate that you recognise that there is no true economic demand for midwives practising solely in that capacity The irregular and sudden character of the midwife's call causes a great accentuation of the special rural difficulty to which attention is called in your columns The coincidence of midwifery calls from different directions in medical practice is nearly always met by the mutual help of colleagues practising in the same area Unless the remuneration of midwives is adequately raised by increase of fee or by provision of a well paid subsidiary occupation, it is impossible to look forward to a sufficient number being established in any but densely populated areas to make a similar arrangement possible

Unless these primary economic considerations are recognised and met it seems doubtful whether any good purpose can be served by an increase in the length of a midwife's professional curriculum or in the standard of her previous education These otherwise very desirable improvements would raise the value of a midwife's services, and *ipso facto* lessen the economic demand therefor

I am, Sir, yours faithfully,

London W March 14th 1916 LAURISTON E SHAW

To the Editor of THE LANCET

SIR,—The honorary secretary of the British Hospital for Mothers and Babies, Woolwich, in speaking of trained midwives, in THE LANCET of March 11th, tells us that not 1 in 1000 "tries to ascertain and to prevent the complications that threaten her patient at the time of booking" But we are told that there are only about 5400 trained practising midwives in all England and Wales, according to which reckoning there would be only half a dozen in that number who give any antenatal care Then why are we here in Fulham so blessed as to have all these settled in our district? What has Fulham done to deserve that the few midwives "who try to ascertain and prevent complications," &c, should practise here? I and my colleagues are constantly being asked to treat midwives' cases for minor and other ills, and it is for the medical man consulted to decide whether he takes the case (contracted pelvis or what not) with the midwife as nurse, or sends it to a hospital

If a midwife keeps her rules (and all our midwives here do so), there can be little fault found with her work, which lies in normal cases Possibly the Woolwich midwives prefer to refer their cases to the local medical practitioners rather than to the hospital of which your correspondent is the honorary secretary

I am, Sir, yours faithfully,

Fulham March 13th 1916 J J EDWARDS

MAGNESIUM SULPHATE IN THE TREATMENT OF GUNSHOT WOUNDS

To the Editor of THE LANCET

SIR,—In the discussion on the treatment of gunshot wounds at the Harveian Society on Feb 24th, reported in your issue of March 11th, Sir Berkeley Moynihan referred to the treatment of these wounds by solution of magnesium sulphate and glycerine as introduced by me The chief credit for placing it on a scientific basis belongs to Dr W J Tulloch, late bacteriologist to the Northumberland War Hospital, now lecturer on bacteriology in the University of St Andrews He has pointed out that magnesium sulphate possesses a power of inhibiting the growth of streptococci in wounds and also of producing a type of granulation —flat, compact, and vascular—and other properties which all tend to rapid cleansing and healing of wounds without suppuration or loss of tissue

We hope to publish at an early date the results of our investigations and the laboratory experiments carried out by Dr Tulloch

I am, Sir, yours faithfully,

Sunderland March 14th 1916 ALBERT E MORISON

GASTRO JEJUNOSTOMY AND JEJUNAL ULCER

To the Editor of THE LANCET

SIR,—The points raised in Sir John Bland Sutton's lecture in your issue of Feb 19th are of great practical importance and require careful consideration on the part of surgeons At the same time I venture to suggest that some of the conclusions reached are open to doubt He says

> With an unobstructed pylorus gastro jejunostomy cannot be relied on to cure a chronic duodenal ulcer, and as it exposes patients to the discomforts and risks of regurgitant vomiting and jejunal ulcers I have gradually abandoned it as a routine measure

Under modern conditions the risk either of regurgitant vomiting or of jejunal ulcer is so small as to be negligible, while the remote results of the operation hardly justify such a pessimistic pronouncement I admit at once that gastro jejunostomy is not an infallible cure, nevertheless it is a cure in such a high percentage of cases that it may be justly regarded as one of the most satisfactory of major surgical procedures

Incidentally he questions the teaching that jejunal ulcer is due to the action of acid gastric contents on the jejunal mucosa, and he suggests that jejunal ulcer is the result of changes in the attached jejunal limb, the changes being the thinning of the jejunal mucous membrane and the disappearance of the valvulæ conniventes A drawing of a specimen illustrating this condition is given Now one swallow does not make a summer, and because in this particular specimen the change described is associated with a jejunal ulcer, it does not follow that the relation is one of cause and effect I have myself seen this thinning of the jejunal mucosa on a number of occasions and my belief is that it is due to some obstruction, and consequent dilatation of the jejunum, at the site of the anastomosis The specimen illustrated appears to support this view, as the afferent jejunal limb is clearly hypertrophied and distended and there is a somewhat marked bend at the site of the anastomosis This, however, is merely an opinion, but there are two indisputable truths which vitiate the argument First, this thinning of the mucosa and absence of the valvulæ conniventes is certainly not the usual condition of the jejunal limb after gastro jejunostomy, and secondly, when there is a jejunal ulcer this condition is by no means always present

I must also once again express disagreement with the accepted view as to the rationale of gastro jejunostomy, which is endorsed in the lecture —

> The object of gastro-jejunostomy (Sir John Bland Sutton says) is to divert the chyme from passing through

the pylorus, and the operation fails in its object because if the pylorus be patent the food continues to pass through it and in some instances ignores the new route.

This teaching is based on the assumption that the beneficial effects of gastro jejunostomy are due to drainage, in other words, that the operation is a purely mechanical one. I am convinced that the success or failure of gastro jejunostomy does not depend on whether the food leaves the stomach mainly by the pylorus or mainly by the stoma. Nor is more rapid emptying of the stomach the rule after gastro jejunostomy The one constant sequel of a gastro jejunostomy is a definite alteration in the chemical composition of the gastric contents Therefore I think we are justified in maintaining that the constant change resulting from the operation is the important factor rather than changes which sometimes occur and sometimes do not I hold very strongly that the curative results of gastro jejunostomy are due to its physiological and not to its mechanical effects

Sir John Bland Sutton emphasises the principle that direct treatment is preferable to indirect treatment, and he argues that pylorectomy being a direct method of treatment is preferable to indirect treatment by gastro jejunostomy Is, however, pylorectomy a more direct method of treatment than gastro jejunostomy? Pylorectomy, it is true, removes the ulcer, but it does not remove the cause of the ulcer Gastro jejunostomy, by modifying profoundly the gastric contents, produces a condition promoting the healing of the ulcer, and is in reality a more direct method of treatment than pylorectomy

Lastly there is the point to be considered of the mortality rate of pylorectomy as compared with that of gastro jejunostomy

Sir John Bland Sutton is such an accomplished surgeon that in his hands pylorectomy for ulcer is a comparatively safe operation Still, in the hands even of the most skilful the mortality is at least 5 per cent, as compared with the 2 per cent of gastro jejunostomy The proportion of cases in which gastro jejunostomy is followed by jejunal ulcer is under 2 per cent I would point out, moreover that a considerable portion of the ulcers usually classified as jejunal occur at the anastomotic opening Some years ago I suggested that these ulcers should be distinguished by the term "gastro jejunal" These gastro jejunal ulcers, which occur along or round the suture line, comprise about one third of all the ulcers usually classified as jejunal These ulcers occur not only after gastro jejunostomy, but may occur along the suture line after pylorectomy If pylorectomy were performed as a routine procedure for duodenal ulcer in which the acidity of the gastric contents is usually high the proportion of cases in which ulceration would occur along the suture line would probably be high At any rate it is understating the case to say that ulceration along the suture line after pylorectomy is as probable as a gastro jejunal ulcer after gastro jejunostomy We are left then with the risk of true jejunal ulcer, which under modern conditions is not greater than 1 per cent, while of those who have a jejunal ulcer, about half die as the result of it

On physiological grounds I believe that the remote results of pylorectomy for ulcer will compare unfavourably with those of gastro jejunostomy Even if they prove as good we have to consider that by treating a duodenal ulcer by pylorectomy we are substituting an operation with an immediate mortality of at least 5 per cent for one with an immediate mortality of 2 per cent, and this to save one patient in 200 from the remote risk of death from jejunal ulcer

I am, Sir, yours faithfully,
HERBERT J PATERSON
Upper Wimpole-street W March 11th 1916

SCHOOLS FOR MOTHERS

To the Editor of THE LANCET

SIR,—To your note on the Bristol Infant Welfare Association in THE LANCET of March 4th (p 515) we should like to add a few details of the aims and practice of the two Schools for Mothers under the direction of the Bristol University Settlement

The ideal of a school for mothers is a difficult one to realise It is threefold 1 It must be inspired by a club spirit 2 It must be definitely educational 3 It must be efficient on the medical side The School for Mothers movement is, and must be, a voluntary movement The Government cannot compel mothers to go to school by law Yet it is equally patent to those who know the working classes that an educational movement which is merely philanthropic carries in it the seeds of its own complete failure Outside charitable aid must not be given in the shape of doles The two University Settlement schools especially are trying to work this out The older school has its own committee, consisting of the officers and six members of the school, elected annually, with a representative of the Workers Educational Association elected at its own council The subscription has been fixed at 1*d* a week or 4*s* a year, and all matters of school organisation that are not strictly medical are brought before the committee Drugs and food are all paid for and substantial contributions are made towards the week's holiday in the summer

The work at a school for mothers is educative and preventive rather than curative, its aim being the production and maintenance of a better hygiene and a higher standard of health for the infants who are regular attendants at the consultations A spirit of healthy emulation is promoted amongst the mothers, who become keenly interested in the progress made by their infants The doctor in charge exercises a general supervision over the health of the infants, encouraging breast feeding and eliminating errors in diet in the case of the artificially fed He is often able to detect the early evidences of disease, more especially rickets, and can prevent malnutrition resulting upon insufficient or unsuitable food It is as impossible as it is undesirable to treat cases of illness at the consultations If any treatment be provided it is incidental and limited to the minor ailments of infancy and childhood, for which many mothers are in the habit of relying upon the advice of the local chemist Cases of acute or serious illness are referred to a medical practitioner, hospital, or clinic, according to circumstances In connexion with the two University Settlement schools a small clinic has been started

We are, Sir, yours faithfully,
HILDA CASHMORE,
Warden,
LILY A. BAKER, M.B F.R C S Irel,
Medical Officer
University Settlement Barton Hill, Bristol March 6th, 1916.

MEDICAL MAGISTRATE.—Dr Francis John Harvey Bateman has been appointed a justice of the peace for the County of London.

The War.

THE CASUALTY LIST

THE following names of medical officers appear among the casualties announced since our last issue —

Killed

Surgeon Probationer J Johnston, R N V R

Died

Captain W Gem, South African Medical Corps, attached to the 10th South African Infantry

Captain A R Chavasse, R A M C, was educated at Oxford, where he graduated M B, B Ch in 1911, and afterwards held appointments at Queen Charlotte s and at St Thomas's Hospitals, London

Unofficially Reported Died as Prisoner

Surgeon Probationer J Hughes, R N V R

Wounded

Captain J H Fletcher, R A M C

DEATHS AMONG THE SONS OF MEDICAL MEN

The following sons of medical men must be added to our lists of those who have fallen during the war —

Lieutenant D D Evans, 17th Royal Welsh Fusiliers fourth son of Dr R D Evans, J P, of Blaenau Festiniog, North Wales

Second Lieutenant H A Johnston, Royal Flying Corps, son of Dr H M Johnston, of Stranorlar, co Donegal

Captain J R Landale, 2nd Queen Victoria's Own Rajput Light Infantry, son of the late Deputy Surgeon General J Landall, A M S

Captain E G Bowhay, 1st Battalion Devonshire Regiment (T F), son of Dr A Bowhay, of Gunnislake Tavistock

MENTIONED IN DESPATCHES

The names of Deputy Surgeon General O W Andrews, R N, and Fleet-Surgeon J Murray, R N, appear in the list of those who are commended for service in action in despatches received from the Vice Admiral Commanding the Eastern Mediterranean Squadron and covering operations on the Gallipoli Peninsula

The Third Class of the Order of the Nile has been conferred upon Dr J B Christopherson, and the Fourth Class upon Captain A G Cummins, R A M C, and Dr V S Hodson, M V O

THE CENTRAL MEDICAL WAR COMMITTEE AND ENROLMENT

At the last meeting of the Central Medical War Committee a scheme brought up by the Executive Sub Committee for the appointment of conferences to discuss the enrolment scheme was adopted The scheme had for its origin a meeting between the London Canvassing Committee and the chairmen and secretaries of the various Medical War Committees in the metropolitan area This meeting proved the value of discussions at which representatives of local activities could be present, and the British Medical Association having agreed to pay the necessary expenses, four meetings or conferences will be held next week to which two representatives from each Local Medical War Committee will be invited, and at which members of the Central Medical War Committee will attend The four selected centres are London, Leeds, Birmingham, and Bristol To the meeting at Leeds on Tuesday, March 21st, the representatives of 59 Local Medical War Committees will be invited, when the discussion will be opened by Colonel R A Bolam R A M C (T) The meeting at Birmingham will be held on Thursday, March 23rd when the representatives of 24 Local Medical War Committees will be addressed by Mr Bishop Harman The meeting at Bristol on Friday, March 24th, will be attended by Mr T Jenner Verrall, and to this meeting the representatives of 19 Local Medical War Committees will be invited The London meeting is on Wednesday, March 22nd This conference will comprise the representatives of 73 Local Medical War Committees

Mr T Hennessy, the representative of the Irish Medical War Committee, attended the last meeting of the Central Medical War Committee and made a statement showing that Ireland needed no inducements to supply medical officers for military purposes He mentioned, for example, that out of 107 newly graduated medical men at Trinity College, Dublin, 100 had joined the R A M C, the other 7 being fully accounted for He added that the number of medical men belonging to the Irish Poor Law service who had joined the colours had produced a difficulty in finding substitutes

It was officially stated at this meeting of the Central Medical War Committee that over 2000 medical men had been enrolled by the Committee but that if the stated needs of the War Office were to be met the enrolment scheme would still need the close attention that it was receiving

WAR SURGERY IN CAIRO

We publish in another column an interesting paper on the results obtained at Cairo in the treatment of wounded Turkish prisoners, captured at the time of the attempted invasion of Egypt at the Suez Canal, by Professor Frank Cole Madden, the senior surgeon of the Kasr el Ainy Hospital who describes the methods of treatment employed there The conditions in the district where the battle was fought were very different from those obtaining in the north of France and Belgium, where the soil was highly manured The site of the Suez battle was practically pure desert, and therefore, as might have been expected the sepsis was, on the whole not so severe as in the European zone Professor Madden found that in those cases which were brought in soon after the battle the sepsis was fairly easily controlled, but when as in some cases occurred the wounded man was found only after a prolonged search, severe sepsis resulted Various antiseptic solutions were employed to cleanse and sterilise the wounds, a 2 per cent solution of iodine being used with good effect, and a solution of cyllin was also found very beneficial Professor Madden describes in turn the treatment of the wounds of the different parts of the body, and for the details we must refer the reader to the paper itself We will only draw attention to his advice that in cases of wounds of the thorax, if the case is doing well nothing more is wanted beyond putting the patient in the most comfortable position for breathing This was generally sitting up in bed or in a chair with the head resting on a pillow on a bed table He considers that when a bullet is in the pelvis but is causing no obvious harm it is far better to leave it alone and not to attempt to search for it He describes an interesting case in which a bullet had gone through one buttock, then straight across the pelvis and out through the other buttock, perforating the rectum on its way The patient did well with drainage, though he suffered much pain in the rectum, but this was completely relieved by division of the external sphincter The paper has many points in it well worthy of attention

Lieutenant Colonel W H Willcox, R A M C, M D F R C P, has been appointed consulting physician to the Mesopotamia Expeditionary Force with the rank of Colonel

OBITUARY OF THE WAR

WILLIAM HOWARD NICHOLLS, M.R C S ENG ,

CAPTAIN ROYAL ARMY MEDICAL CORPS

Captain W H Nicholls, who was killed by an accidental gunshot wound at Jhansi, Central Provinces, India, on Feb 22nd at the age of 24 years was the only son of Mr H H J Nicholls M R C S , of Worthing, who was for many years in practice at Eastbourne He was educated at Bradfield College and Guy s Hospital Though near his qualifying degree at the London University on the outbreak of war he passed the Conjoint examination and immediately entered the R A.M.C , in which he was gazetted captain in 1915 He was a boxer and all-round athlete, and shared in the men s games, and was very popular with them Whilst in medical charge of the Norwich Flying Corps he utilised his knowledge of mechanics and natural interest in machinery to learn to fly himself and he was granted a pilot's certificate in January, 1916, an unusual distinction in the R.A.M C Soon after this he was ordered abroad and met his death not long after reaching India In private life he was a keen sportsman and a small yacht owner, and there will be sorrow in many a Worthing fisherman s home for the loss of a liberal friend.

BERNARD BRADLY GOUGH, M.R C S ENG ,

LIEUTENANT ROYAL ARMY MEDICAL CORPS

Lieutenant B B Gough, who was killed in action in France on Feb 16th at the age of 42 was the son of the late Mr H. Gough barrister of Redhill Educated at Guy's Hospital he took his Conjoint qualification in 1897, and after holding several house appointments settled in practice at Compton Martin near Bristol where he became medical officer and public vaccinator In June 1915 he joined the R A.M C and was at the time of his death attached to the 8th Battalion South Staffordshire Regiment A medical friend who knew him well for 20 years writes Few may have pierced his peculiar reserve, but to those who did there was a very different character beneath than that which was suggested on the surface He was at his best with children in the open A lover of wild things, he had the rare gift of opening the eyes of others to the beauty of the world around But with adults he was peculiarly diffident and one might have easily missed that kindliness of which many a poor patient will tell to-day with tears and that sterling character of which his intimates had ever fresh revelations Lieutenant Gough leaves a widow who is in command of the Gournay Court V A. Hospital at West Harptree near Bristol

HENRY JOHN RUTHERFORD JONES, M R C S ENG ,

CAPTAIN ROYAL ARMY MEDICAL CORPS

Captain H. J Rutherford Jones who died at his home in Oakwood Court, Kensington, on Feb 26th, aged 49 years was the son of the late Mr Robert Slade Jones Born at Upper Clapton, London, he was educated at University College, and became a student at the London Hospital taking the diploma of the Society of Apothecaries in 1890 and that of the Conjoint Board in 1892. After a resident hospital appointment he went several voyages to the East as surgeon in the P & O service He was then in general practice for several years in Kensington retiring in 1905 Captain Rutherford Jones was of a cheerful and optimistic disposition and a thorough sportsman in every sense of the word On the outbreak of war he returned at once from a riverside holiday to offer his services at the War Office for a year abroad From the middle of August, 1914 he served in France and Belgium with No 12 Field Ambulance and was mentioned in despatches At the expiration of the year Captain Rutherford Jones again offered his services, and was appointed to the Convalescent Hospital, Summerdown Camp, Eastbourne While attending to his duties there he developed uræmia the result of a progressive renal and heart disease due to the strains of active service Throughout his illness he never complained, and the end came with acute œdema of the lungs The close was a fitting sequel to the life of an unassuming and kind natured man who displayed courage of the highest order to the last Captain Rutherford Jones leaves a widow and step-daughter

GEORGE SEYMOUR RUSSELL STRITCH, L R.C P L R C S EDIN , L A.H DUB , J P

CAPTAIN 6TH BATTALION CONNAUGHT RANGERS

Captain G S R Stritch who was killed in France on Feb 7th at the age of 42 held a combatant commission He was the second surviving son of the late John R Stritch K C , of Dublin, and a cousin of Sir Edward Carson and General Sir Bryan Mahon Educated at the Royal School at Armagh he studied medicine at Trinity College Dublin, and afterwards in Edinburgh where he qualified in 1895, winning the gold medal in medical jurisprudence and hygiene He then became assistant medical officer of the Argyle and Bute Asylum In 1902 he returned to Dublin and was appointed resident medical officer of the Lock Hospital, where he formed the ground work of his knowledge of the subject in which he afterwards specialised He was a frequent contributor to medical literature "The Tuning Fork as a Means in Diagnosis (THE LANCET 1902) and 'Pseudo-flexion of Uterus as a Sign of Pregnancy at First Month' (THE LANCET, 1910) being specimens of his early and of his later work He was the inventor of a prolapse pessary which bears his name He became a justice of the peace for the borough of Dublin and a governor of the Lock Hospital and of the Royal Hospital for Incurables He had also been director and governor of the Apothecaries' Hall in Dublin, and in the latter capacity had the honour of presenting an address to the late King Edward On the outbreak of hostilities he applied for a commission in the Royal Army Medical Corps, and, not being immediately successful accepted a combatant captaincy in his old regiment, the Durham Light Infantry, and was afterwards transferred to the battalion in which he lost his life He will be much missed in Dublin, where his sincerity and kindliness of manner endeared him to all with whom he came in contact He leaves a widow and two young children

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Panel Chemists and Exemption—The list of reserved occupations issued by the Local Government Board in November last included "chemist, in the sense of a person dispensing medicines under the National Insurance Acts" Under Lord Derby's scheme this inclusion conferred upon the panel chemist a provisional exemption from being called up for military service, which could only be removed by decision of the Central Tribunal With the passing of the Military Service Act (1916) this position no longer obtains, and the Local Tribunal, on the motion of the military representative, may now decide in the case of any particular panel chemist that it is unnecessary for him to be retained in civil employment. This view has recently been confirmed in a reply by Mr Tennant to a question in the House of Commons Furthermore, those panel chemists who did not attest, and who therefore come under the Military Service Act, will be automatically called up like any other eligible person unless application for exemption has been made. In order to meet this prospective depletion of the ranks of the chemist the National Health Insurance Commissioners advise concerted action between the Pharmaceutical Committee, which is already acting in the matter, and the Local Insurance Committees It is suggested that an agreement should, where possible, be arrived at with the military representative to obtain a short postponement of any individual cases in order that all cases in the area served by each tribunal may be considered simultaneously, and suitable arrangements made to maintain a supply of drugs and appliances, not only for insured persons, which is the essential work of the National Health Insurance, but also among the civil population in general.

The Unfit Medical Student and the War.—Whether we like it or not, the medical student who has not reached his clinical study will disappear from the field after the approaching Easter, except in so far as the student is (1) a woman, (2) under the age of 19 (3) only resident in this country for the sake of study, or (4) unfit, and we shall be faced with the fact that from about Easter, 1918, for a period the length of which the boldest can hardly estimate, there will be no medical students presenting themselves for their professional examination unless they are included in the exceptions we have mentioned The type of healthy male medical practitioner to which we have been accustomed will, therefore, lapse for a while It is, of course, possible that the authorities may even yet rescind or modify the conditions applying to the recruiting of students in their early years, or recall them after they have shown by their example that there was no holding back on their part from danger Still, it is prudent to face the position as it actually exists and to consider what is left to fill the ranks which have lost their usual source of supply In so doing we may perhaps simplify matters for present purposes by leaving on one side the woman student her future is assured, was probably assured before the present dearth of men But although we grant and gladly grant, her ability to fill for the emergency of the moment nearly any kind of vacant situation, the work of the female practitioner will not permanently be to understudy the male practitioner, it will occupy a field of its own The second group of exceptions will in the fullness of time drop out as the student reaches the age of 19 years and comes automatically under the provisions of the Military Service Act (1916). The third group need hardly detain us longer The student whose ordinary place of residence is not in the United Kingdom, and who is in this country solely for the purpose of study, will naturally, in the vast majority of cases return to his own country when he has passed the qualifying examination which was the occasion of his residence here We are left with the unfit student to consider, whose physical condition is such that he is ineligible for a commission in the services Our contemporary, the *St Bartholomew's Hospital Journal*, reminds us that it would be easy to instance many disabilities that would render military service impossible but would not debar from a highly useful medical career, and goes on to give a list of such disabilities certain defects of vision, unilateral deafness, minor cardiac lesions slight infantile paralysis, some degree of scoliosis or flat-foot ankylosis of one of the larger joints, or even imperfect descent of the testis At first sight the proposal is an unattractive one The profession of medicine is in many of its branches an arduous one, especially so during the period of study, and we have never ceased to lay stress on the need for a supply of men equipped with healthy minds in healthy bodies to fill its ranks The formidable list of disabilities given suggests the materials for a clinic among the students themselves But there are not lacking inspiring examples of men who did not allow their personal disabilities to stand in the way of their work The names of many distinguished men, dead and alive, will recur to our minds In spite of all that can be urged against it, we believe that the proposal demands the careful consideration of those whom it chiefly concerns, and that as our contemporary suggests the General Medical Council might be asked to encourage young men possessing good brain power and a sound school record who have been refused a commission in the services by reason of some physical unfitness to enter the medical schools at the present time The disability which may seem to these young men now to be a very real hardship might in this way be turned into an opportunity for serving their country in a very definite and concrete manner

Need for Resident Surgical Officers at Hospitals—The Central Medical War Committee invites applications from gentlemen of good hospital surgical experience who are over age or otherwise disqualified for service in the Royal Army Medical Corps, who would be willing, if the necessity arose, to take resident surgical officer appointments in hospitals This appeal is not intended to compete with the ordinary advertisements for such posts, but the Central Medical War Committee would like to have in reserve a supply of experienced surgeons who would, if necessary, be prepared to fill such appointments for a time Applications to be sent to the secretaries, Central Medical War Committee 429, Strand, London, W C

Ambulances for the Russian Red Cross—The four stretcher-ambulances recently presented by Queen Alexandra at Marlborough House to the Russian Red Cross Society are the gift of the Wounded Allies Relief Committee, and embody the improvements that have been found necessary by recent experience

The Indian Soldiers' Fund—The second report of the Indian Soldiers Fund, covering the period April to November 1915 is an interesting document not only on account of the work recorded but also on account of the excellent reproduction of photographs showing the activities of the Fund in all its ramifications The Fund is under the ægis of the Order of St John of Jerusalem in England, and provides clothing and comforts for the Indian Expeditionary Force in Egypt, East Africa, and Mesopotamia and at the same time looks after the interests of the Indian prisoners of war in Germany The statement of accounts shows that £151 273 have been received in donations and subscriptions, which together with the Government capitation grant on account of Lady Hardinge Hospital and interest on bank account makes a total of over £165 930 An urgent appeal is made by the Fund for contributions of money and clothing (specifications will be sent on application). The former should be sent to the honorary secretary Indian Soldiers Fund 1 Carlton House terrace S W, and the latter to 11, Somerset-street, W Cheques and postal orders should be crossed Mercantile Bank of India and letters containing Treasury notes should be registered

Obituary

THEODORE THOMSON, C.M.G., M.D. LOND.,

FORMERLY ASSISTANT MEDICAL OFFICER TO THE LOCAL GOVERNMENT BOARD

WE announced last week the death of Dr. Theodore Thomson, late assistant medical officer of the Local Government Board, who died suddenly at Oxford on March 6th, aged 57.

Theodore Thomson was the son of an Aberdeenshire clergyman, and was educated at the Universities of Aberdeen and Edinburgh, graduating in arts at the former University in 1877. In 1883 he qualified as a medical man by taking the Edinburgh double diploma, and a year later he graduated as Bachelor of Medicine at the University of London, taking the D.P.H. Camb. in 1888. In 1891 he was appointed medical inspector to the Local Government Board, having previously held the post of medical officer of health both at Aberdeen and Sheffield. In the following year he proceeded to the M.D. Lond., making State medicine his special subject. In 1894 he was called to the English bar, being a member of the Middle Temple.

THEODORE THOMSON, C.M.G.

In the 20 years during which Dr. Thomson acted as medical inspector to the Local Government Board he was entrusted with many important commissions on behalf of the Board and the Government. For example, in 1900 he was a member of a Vice-regal Committee of Enquiry into the public health of the city of Dublin. In that year and in the previous year the general health conditions of Dublin had been exposed in the clearest manner by the Special Sanitary Commissioner of THE LANCET, and the daily journals thus became alive to the appalling state of affairs revealed by the death-rate in Dublin. The condition of the schools and the housing of the poor were alike deplorable. The Irish Local Government Board bestirred itself, and to a strong Committee of Enquiry Dr. Thomson was appointed as the representative of the English Local Government Board. The report of this committee contained many recommendations in reference to housing schemes, dairy inspections, and hospital arrangements, some of which have already played their part in an improvement in the sanitary conditions of Dublin.

In 1903 and 1906 he was a British delegate to the International Sanitary Conferences at Paris and Rome respectively, acting on both occasions as plenipotentiary to sign the Sanitary Conventions. In 1904 he was an Imperial delegate to the West Indian Intercolonial Sanitary Conference of Barbados. The purpose of this conference was to arrive at some practical agreement upon matters of quarantine between the various West Indian Islands, and the result of Dr. Thomson's mission was a working convention between the communities. In 1906, at the request of the Foreign Office, he was sent on a special mission of inquiry into the sanitary defences of the Persian Gulf, mainly with a view to prevent the spread to Europe of cholera and plague *viâ* the Gulf. He recommended that no quarantine station should be established at the mouth of the Gulf, demonstrating clearly the official difficulties that would arise if this were done. In the same year he was made C.M.G. "for services in connexion with sanitary matters in the Foreign and Colonial Offices." On the retirement of Sir William Henry Power, Dr. Thomson was thought by many of his friends to be a likely selection for the post of medical officer to the Board. This appointment was not, however, made, but he became assistant medical officer to the Local Government Board in 1911 in succession to the late Dr. H. F. Parsons, a post from which he had only recently retired.

It will be seen that Theodore Thomson was a highly valued and thoroughly important public servant—the forms of different special service for which he was selected prove that he was known to possess tact, discernment, and discretion. In his methods of work he was thorough and methodical, while he was also, without appearing to be particularly busy, capable of doing a large amount of good work in a given time. It was noticeable both within and without his bureau that he was never in a hurry. His numerous official reports afford abundant evidence of his perseverance, skill, and knowledge. In illustration of these qualities special reference may be made to his reports upon measles containing advice as to the obtaining of more control over this dangerous and common malady, and to his investigations of various outbreaks of enteric fever in Rotherham, Newport (I W), Worthing, Maidstone, Chichester, and Folkestone These reports were made between 1891 and 1902 At a later date he and Dr J C G Ledingham were engaged on behalf of the Local Government Board in an inquiry into protracted and recurrent infection in enteric fever This involved consideration of what was then known about "carriers" In 1910 a report on the subject by Dr Ledingham, with a preface by Dr Thomson, was published, and for many medical men this document formed their introduction to this subject

Theodore Thomson was an agreeable and sympathetic colleague to work with, always ready to give his advice and to share his experience As a friend he was a delightful man, whom many are regretting He was unmarried

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RICHARD DRUMMOND MAXWELL, M D LOND, F R C S ENG,

ASSISTANT OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL

Richard Drummond Maxwell, whose death came with dramatic suddenness on March 7th, entered the London Hospital with a scholarship in October, 1892 After qualifying M R C S in July and M B Lond in November, 1897, he was in succession house physician, house surgeon, and receiving room officer In 1907 he became a F R C S and was appointed obstetric tutor and registrar, becoming, after five years' service, assistant obstetric physician He was also, at the time of his death, physician to Queen Charlotte's Lying in Hospital and an examiner to the Central Midwives Board His contributions to the literature of his special subject were numerous, and his knowledge such that he was asked by the late Dr Herman to assist him in the preparation of his manual, "Diseases of Women" (1912)

Of Dr Maxwell's ability there is little need to speak, his academic distinctions, the position he had already attained in his profession, the success which had already come to him, are surely sufficient testimony Great though his professional attributes were, it is for other and rarer gifts that those who knew him will dwell upon his memory A wide and generous sympathy for all suffering, a detestation of cant, and a passionate love of justice were mingled in his character with a natural geniality and a deep appreciation of the drama, poetry, and humour of life The quiet courage with which he faced two serious abdominal operations was not lost on his friends He was indeed never known to complain Dr Maxwell's constant interest in military matters is perhaps explained by his descent from a Scottish Border family He had seen active service in the South African War as an officer in the Royal Army Medical Corps, while for the last 12 months he was in command of the London Hospital Section of the University Officers Training Corps Nothing, however, compensated for the disappointment which he felt that he could not join our Expeditionary Force in France, for, like many of his countrymen, he had a strong sentimental regard for Scotland's ancient ally Dr Maxwell was a pure product of the London Medical School, with which he identified himself absolutely, following its varying fortunes with the closest personal interest Such a man could not fail to be popular with both colleagues and students, and the widespread grief with which the news of his death was received bore testimony to the respect and affection in which he was held

Dr H R Andrews writes —

In 1907 Maxwell was appointed obstetric registrar and tutor at the London Hospital From that time until his death he worked with me almost continuously and always harmoniously In 1912 he was appointed assistant obstetric physician He was a loyal, cheery, and unselfish colleague, an able and popular teacher, and a skilful and successful operator For the greater part of last year, during my illness, he bore the burden of the obstetrical and gynæcological department of the London Hospital with little assistance, working unselfishly and cheerfully, although he longed to go out to France During the last few months he had taken up physical culture with much energy and used to swim 12 lengths of a swimming bath every evening and sprint afterwards, besides doing various exercises He told me a few weeks ago that he had derived great benefit from this, and that his sense of bodily fitness had not been so great for some years The end came with a shocking suddenness On Saturday March 4th, he wrote to the hospital saying that he would operate as usual on the following Monday, On the morning of Sunday March 5th, he was operated on, and he died 24 hours later His loss will be long and deeply felt at the London Hospital, and is a very real one to me He was an enthusiastic member of the Gynæcological Visiting Society, no meeting of which could be considered to be complete without his lively and stimulating presence

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THOMAS UNDERHILL, M D ST AND, J P

WE regret to record the death of Dr Thomas Underhill, of West Bromwich, which occurred on March 10th from pneumonia after a few days illness at the advanced age of 92 years Previously to this his health had been remarkably good and his faculties well maintained The name of Underhill is widely known in the South Staffordshire district For several generations it has been borne by a succession of medical men who have added reputation and dignity to their calling

Thomas Underhill was born in 1824 at Tipton His father, Dr Thomas Underhill, practised for many years at Great Bridge, Tipton, retiring to West Bromwich, where he died in 1853 The son's ability and energy further developed the practice, and he also settled later in West Bromwich The same tradition was observed in the third generation Dr Underhill was a man of wide professional knowledge and experience His professional judgment was sound, his opinions well balanced, his resources fertile These attributes, combined with a cheerful readiness in following his calling to the best interests of his patients, gained him confidence and esteem among the many who recognised his services and valued his friendship Having received his medical education at the Birmingham School of Medicine and Queen's College, he took the qualifications of M R C S and L S A in 1845, the L R C P in 1859, and obtained the degree of M D St And in 1871 For a number of years he was consulting surgeon to the Guest Hospital, Dudley In the year 1870 he was elected President of the Birmingham Branch of the British Medical Association His inaugural address, entitled On Hospitals and Medical Education,' dwelt upon the advantages of the apprenticeship system in the training of medical students and the many defects in the hospital routine His knowledge of the conditions of work of a large mining population was placed before the profession in various papers

As a citizen Dr Underhill was a warm supporter of local government and municipal institutions On the incorporation of the town of West Bromwich in 1882 he was elected an alderman of the borough, and subsequently became the second occupant of the mayoral chair In 1914 the freedom of the borough was conferred upon him He was also a justice of the peace for the county of Stafford, a member of the School Board, and associated with various philanthropic and benevolent institutions of the locality In public as in private life he leaves an example of high minded character, goodness of heart and lofty principle Dr Underhill married Mary Anne, the daughter of Jacob Owen, of Dublin who died some years ago, leaving him with five daughters and four sons, two of whom are in the medical profession—Dr A. S Underhill, of West Bromwich, and Dr T H. Underhill, of Herne Hill.

WILLIAM GLADSTONE CLARK, M A CANTAB, F.R.C S ENG

By the death of Mr W G Clark in his forty ninth year, which took place at Bulawayo on Jan 23rd after a short illness, Rhodesia loses one of its best-known practitioners He was the first resident surgeon at the Memorial Hospital there, and subsequently held the post of medical officer of health and other appointments Mr W G Clark was born at Montreal, the son of Mr James P Clark, sometime a prominent merchant in that city He was educated at Merchant Taylors' School and Downing College Cambridge Before entering on his medical studies at St Bartholomew's Hospital, he was for several years a schoolmaster at Skipton and Cranleigh, a training which made him afterwards a conspicuously good clinical teacher At his hospital he was in succession house surgeon, midwifery assistant and demonstrator of physiology Mr Clark leaves a widow and no family

Medical News

ROYAL COLLEGE OF SURGEONS OF ENGLAND —At a meeting of Council of the Royal College of Surgeons on March 9th licences to practise dentistry were conferred upon 28 candidates who have passed the requisite examinations and complied with the by laws The following are the names and schools of the successful candidates —

Reginald Nanson Bates and Vernon Wilfrid Ayres Bell-Bonnett Middlesex and Royal Dental Hospitals Frederick David Blomfield, Middlesex and National Dental Hospitals Vincent Clifford Carrington, Birmingham University Cyril Lister Curle, Birmingham University and Guy's Hospital Howard Curtis, Guy's Hospital Herbert Gwyn Davies, Middlesex and Royal Dental Hospitals Walter Edmund Drummond, Bristol University Victor William Powell Forbes, Charing Cross and Royal Dental Hospitals Reginald Fyson, Robert James Wilson Hogue, and William Kenneth Talbot Hope Middlesex and Royal Dental Hospitals Edward Almond Jennings London Hospital Alfred Kenneth Ince Jones and Wright Lambert, Middlesex and Royal Dental Hospitals Edgar Clarence Lewis, Guy's and Royal Dental Hospitals Francis Vincent Maguire and Percy Millican Middlesex and Royal Dental Hospitals Lewellyn Arwyn Morris, Stanley Gordon Smith, and Cecil Stanley Southwell, Guy's Hospital John Speak, Middlesex and Royal Dental Hospitals, Samuel Ogden Stewart, Liverpool University Thomas Charles Stretton, Middlesex and Royal Dental Hospitals Robert Augustus Walters, Bristol University Maurice Gustave Watson, Guy's Hospital Percy Williams, Liverpool University and James Thomson Wood Middlesex and Royal Dental Hospitals

The diploma of M R C S was conferred upon the following candidate who has now complied with the by laws for the membership —

Kesava Narayana Rau Madras University and University College Hospital

An ordinary meeting of the Council was held on March 9th Sir W Watson Cheyne, the President, being in the chair It was resolved to issue diplomas of the Licence in Dental Surgery to 28 successful candidates It was resolved on the recommendation of the Board of Examiners in Dental Surgery to approve of the principle of modifying the curriculum in reference to the general subjects required at the examination for dental students A report was read from Mr C H Golding Bird on the proceedings of the Central Midwives Board during the past year The thanks of the Council were given to Mr Golding Bird for his report, and it was ordered to be entered on the minutes Sir Henry Morris was re-elected the representative of the College on the General Medical Council The President reported that he had chosen Mr Charters J Symonds as Bradshaw lecturer for the ensuing collegiate year

UNIVERSITY OF BRISTOL —At examinations held recently the following candidates passed —

Second Examination for the Degree of M.B., Ch B—Bernard Archibald Astley Weston Elizabeth Casson, and Reginald Frank White.

Third Examination for the Diploma in Dental Surgery—Roy Lugarde O Sullivan.

ROYAL SANITARY INSTITUTE —Professor J Martin Beattie is to open a discussion on Tuberculosis of Children and Milk supply at the Physics Theatre University of Liverpool, on Friday, March 31st at 3 30 P M The medical officers of health for Liverpool, Bootle, Wallasey, St Helens, and Cheshire are expected to take part

CENTENARIANS —The *Times* announces the death, at Cobham of Mr Henry Snooks who would have attained his 105th birthday had he lived till March 22nd He was a native of Gillingham Dorset.—Mrs Maria Long died on March 13th at the age of 104 She was the mother of Captain R W Long R A M C

THE LATE DEPUTY SURGEON-GENERAL J LANDALE A.M.S (RETIRED)—Deputy Surgeon General James Landale died at his residence in Cheltenham on March 7th in his eightieth year The deceased officer graduated M D Edin. in 1856 and in the same year obtained the L R.C S Edin He was in the army medical department for 33 years and served through the Indian Mutiny being attached to the 92nd Foot He had resided for several years in Cheltenham, where he was highly esteemed.

SEAMEN'S HOSPITAL SOCIETY (DREADNOUGHT) GREENWICH.—At the annual court held on March 14th the chair was taken by Major General F L Lessard, C B of the Canadian Expeditionary Force whose efforts on behalf of a special appeal for the hospital in Canada had resulted in the collection of £4000 in Toronto alone Lord Devonport spoke of the success which had attended the effort to provide isolation wards an X ray department, lifts and rest and recreation rooms for the nursing staff. There now seemed good prospect of raising the total sum required of £50 000 The work would not be commenced while the present high prices of materials continued to rule. The Rt Hon. Andrew Fisher (High Commissioner for Australia) spoke in terms of high praise of the activities of this international institution of mercy Dr Frederick Taylor, President of the Royal College of Physicians of London, referred gratefully to the efforts made by the medical surgical and nursing staffs to maintain the work of the hospital at a high level during the absence on combatant service of a number of its members and at a time when the institution contained its full complement of sufferers

MANCHESTER AND ITS HOSPITALS —A Manchester correspondent writes —"Since the outbreak of the war Manchester has become the greatest hospital centre outside London. In 1915 the military patients nursed and treated in our hospitals numbered 10 976 divided as follows Royal Infirmary 1715, Royal Eye Hospital, 3373, Salford Royal Hospital 1057, Ancoats Hospital, 394, Ear Hospital, 928, Skin Hospital, 190, Dental Hospital 3306 At the annual meeting of the trustees of the Royal Infirmary which was held on Feb 11th, it was stated that the number of beds provided for military patients was 303, and the board were prepared to provide 42 more so as to bring the total up to 350 There was an average of 200 beds occupied by the military patients in addition to the heavy demands for civilians With few exceptions all the honorary staff have been engaged in some form of medical war service in addition to their ordinary work. Dr A. Ramsbottom has been somewhere in France since 1914 two others went abroad with the 33rd Base Hospital, which was mobilised shortly, and its medical staff was drawn almost entirely from Manchester The distinction of the Royal Red Cross of the First Class has been conferred upon Miss Sparshott the lady superintendent of the infirmary and principal matron of the 2nd Western General Hospital. Since the institution of Hospital Sunday in 1870, 46 years ago, £210 000 have been raised towards the support of the hospitals and medical charities of Manchester and Salford In 1874 £6250 were raised, while in 1913 only half the amount was collected "

UNIVERSITY OF OXFORD RADCLIFFE TRAVELLING FELLOWSHIP - Mr George E Beaumont, B A, University College, has been elected to a Travelling Fellowship on the Foundation of Dr John Radcliffe

THE ANGLO-RUSSIAN HOSPITAL — In consequence of the absence of Colonel A. E Garrod, A.M S at Malta, Dr T J Horder has been unable to join the staff of the Anglo-Russian Hospital in Petrograd, and is at present acting as medical adviser in London to the hospital

THE annual meeting of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11 Chandos street, W, on Tuesday, April 11th, at 4 P M The Rev J C Pringle, secretary of the Charity Organisation Society, will open a discussion on "Alcoholism and Social Service" Each member and associate is at liberty to introduce a visitor

DEATH OF MR A F WILSON —Andrew Fairlie Wilson, L R.F P S Glasg, the medical officer of health for the borough of Stirling, died at his residence on Feb 26th, aged 64 A native of Stirling he qualified in 1882, and after spending three years in Orkney returned to Stirling and engaged upon medical practice in 1885 He was recently appointed tuberculosis officer and medical officer to the Insurance Committee Mr Wilson was unmarried, but his love for children, especially those of the poorer quarters of the borough, was great and as one of his friends writes "He constituted himself the champion of the little ones of the dark places "

CANCER HOSPITAL, BROMPTON, S W —The annual general meeting of the governors of this hospital was held on March 13th Lord Northbrook, chairman of the governors, presiding The chairman, in moving the adoption of the report, said that although the past year had been a trying one owing to the depletion of the staff and other circumstances incident on the war, the usefulness of the hospital was in no way suffering He alluded to the loss sustained by the resignation owing to ill health, of Mr F B Jessett consulting surgeon, who had been connected with the hospital for 31 years, during 25 years of which he had filled the office of surgeon At the outbreak of war their well equipped electrical and X ray departments and 60 beds had been accepted by the War Office, and during the past year 57 soldiers had been admitted to the wards, and 135 military patients had received treatment in the electrical and radio therapeutic department Colonel Webber, in seconding, said the total expenditure for the year was £19 749, against £18 855 the year before Thrift had been observed, and the cost per head had been decreased

Parliamentary Intelligence

HOUSE OF COMMONS

WEDNESDAY MARCH 8TH

Irish Medical Students at Edinburgh

Sir THOMAS ESMONDE asked the Under Secretary for War whether his attention had been called to the case of Mr John T Dur, an Irish medical student at Edinburgh, who had been ordered to report himself for enlistment, whether Mr Dur and others similarly circumstanced in Great Britain were bound to enlist, and what steps had been taken in Mr Dur's case —Mr TENNANT replied If Mr Dur is unattested and is only temporarily resident in the United Kingdom he would be excepted from the operation of the Military Service Act

Middlesex County Asylum

Mr KING asked whether all the lunatic inmates were being removed from the Middlesex County Asylum at Napsbury, and, if so for what reason were they being sent to a long distance from their relatives was it intended to increase the number of certifiable soldiers at present in a block of this asylum or to place uncertifiable soldiers in this position or would accommodation be offered in this asylum for the wounded —Mr BRACE wrote in reply The whole of the Middlesex County Asylum at Napsbury is being handed over to the War Office for use as a military hospital, and the patients are being distributed over other asylums as near as possible to Middlesex The asylum is to be used by the War Office for sick and wounded soldiers, but it is still intended to receive there a certain number of soldiers suffering from mental and nervous affections of the same type as those now under treatment in the detached part of the institution already adapted as a war hospital

THURSDAY, MARCH 9TH

Fees for Examining Recruits

Mr SNOWDEN asked the Under Secretary for War whether army medical examiners of recruits were paid a fee only on cases which were passed, and whether this could be accepted as the explanation of the fact that recently men had been passed as fit for military service who had an artificial leg men who were so mentally deficient that they were unable to understand or answer any question put to them by the recruiting officer, and men who had never done any work for years on account of daily attacks of epilepsy, or what other reason there might be for passing such persons into the army

Sir FREDERICK CAWLEY also asked the right honourable gentleman whether recruiting medical officers were paid only for recruits whom they passed as sound, and whether officers of the Royal Army Medical Corps received special payment for each recruit passed —Mr TENNANT replied I will answer both questions together I am grateful to the honourable Member for Blackburn and also to the honourable baronet for giving me the opportunity for contradicting categorically the statement that recruiting medical officers are paid only for recruits whom they pass as sound It is the examination which is paid for and the pecuniary result to the examining medical officer is the same whether he accepts or rejects a recruit I have stated this upon several occasions I should add that a medical man holding a commission receives no fees for the examination of recruits I cannot accept the latter part of the question of the Member for Blackburn (Mr Snowden) as being anything else than an incorrect misrepresentation of the results of the work of the examining medical officers I think that instead of being held up to obloquy they deserve support and recognition for their patriotic work

Soldiers and Tuberculosis

Mr PARTINGTON asked the Under Secretary of State for War whether no pensions were granted to soldiers who had contracted tuberculosis on active service —Mr TENNANT answered No, sir, any statement to that effect is altogether incorrect I find that of 87 cases of men discharged in January 1916, for tuberculosis contracted in France 70 were granted pensions at war rates nine have been granted final pensions, and eight cases are still under consideration

Mr BOOTH Have not hundreds of these cases now come back on to the Insurance Act? - Mr TENNANT No I am not aware of anything of the kind If the month I have quoted is an average one, then out of 87 cases 79 have received pensions

Abdominal Operations at the Front

Mr R MCNEILL asked the Under Secretary of State for War, whether at the outbreak of war an order was in force forbidding medical officers of the Royal Army Medical Corps to operate in abdominal cases, whether notwithstanding this order, an eminent surgeon operated in abdominal cases in Antwerp in the autumn of 1914 with satisfactory results whether the order nevertheless remained in force until after September, 1915 whether the usefulness of operation in abdominal cases in saving life had now been established provided the operation could be performed with a minimum loss of time and whether steps were being taken to inaugurate a complete system of operating field hospitals as close as possible to the fighting zone —Mr TENNANT answered I cannot find that the order referred to is anything else than a figment of some fertile imagination The arrangements in France have the full approval of the consulting surgeons and of others most competent to judge I have quite recently received a report from Sir Frederick Treves in which he states that in many cases a man in need of a grave operation has found himself on the operating table within three or four hours of his being shot and that he was informed of cases in which operations upon the skull and the abdomen had been carried on within two and a half hours of the receipt of the wound and he adds that such prompt attention could not be obtained by a wounded civilian in any rural district in England If he so desires I will show my honourable friend the whole of the report from which I have read this extract

Mr MCNEILL Does the right honourable gentleman know that the facts spoken to by Sir Frederick Treves are extremely exceptional and will he be prepared to say that there is an organisation whereby facilities are provided for operations to be carried out at the front —Mr TENNANT Such a sweeping statement might not be permissible or proper but there is an organisation of clearing stations so near the front that they are constantly under shell fire in which these operations can and do take place at all hours of the day and night

The Board of Control

Replying to Mr KING, Mr H SAMUEL (Home Secretary) said The Lunacy Commissioners have been merged in the Board of Control The work of the Board in carrying out the Mental Deficiency Act has been seriously checked by the restriction of capital expenditure caused by the war They have been unable for this reason to press local authorities to provide new institutions for defectives, but a good deal of useful work has been done in other directions, such as providing for the supervision of defectives at their homes On the other hand, the work of the Commissioners in connexion with lunacy has been increased rather than diminished by the handing over of lunatic asylums for use as war hospitals The concentration of patients into a smaller number of asylums has not diminished their numbers has demanded even closer supervision than formerly and has involved difficult administrative and financial arrangements Two of the Commissioners have, at the request of the War Office undertaken the continuous supervision of the war hospitals scheme, and have thus to a large extent been withdrawn from their ordinary functions Another Commissioner and one of the inspectors have been absent on military duty since the beginning of the war, and more than half the clerical staff have joined the forces The expenditure of the Board has been reduced in many directions, and the estimates for the coming year will show a large reduction

TUESDAY MARCH 14TH

V A D Hospitals

Sir CLEMENT KINLOCH COOKE asked the Under Secretary for War whether he had received any complaints from the V.A.D hospitals as to the strict nature of the regulations governing the movements of convalescent wounded, and whether he would consider the possibility of introducing a little more liberty in this respect regarding the inmates in these hospitals —Mr TENNANT replied Complaints have been received that the discipline in these hospitals was too lax and also in smaller numbers that the discipline was too severe. New instructions were issued and the complaints have ceased The desirability of giving reasonable liberty to patients is fully realised and the desirability of patients fully recovering their health is no less recognised

Medical Work in the Army

Mr TENNANT in the course of his speech on Army Estimates, said that the medical standard of recruits had not been reduced Medical boards had been established in each military area, and by this means it was thought that the medical examination had been improved Men who had been previously accepted for service by local practitioners had been in certain cases rejected by the medical boards A process of grading recruits into categories had also been adopted. With regard to disablement pensions the Government had decided that these should be granted to men whose disease had not been caused but had been aggravated by service, but the limit of pensions would in this case be only four fifths of the rates prevailing for men who had been wounded in the service

The Health of the Army

I must say proceeded the right honourable gentleman, a word for the medical service Since I last spoke it has been continued and almost perfected The incidence of disease in France is low There is an entire absence of any epidemic. We owe our thanks to the many medical and scientific men for their energy and action in this matter, and particularly in the prevention of disease We have received valuable aid from the Sanitary Committee which has done splendid work, especially in Gallipoli where they had a difficult task in counteracting tropical diseases In that sphere the outbreak of dysentery and diarrhœa caused us great anxiety Fortunately we have no anxiety now in relation to the health of the troops either at Salonika or in Egypt At home large convalescent hospitals have been established, and in the military hospitals here men are being replaced by women Fourteen hundred women have already asked for general service For this we have to thank the Red Cross Society Between 5000 and 6000 women who have been organised in voluntary aid detachments are now doing regular nursing work in hospital That is a wonderful fact In order to obtain medical officers under conditions least harmful to the needs of the civil population and the great civil institutions we have established a representative body of medical men in conjunction with the National Health Commissioners and the Local Government Board It has already done very valuable work The members of the medical profession generally have come forward in the most admirable manner to meet the needs of the State We have taken highly successful measures against the gas attacks of the enemy, we have established new medical boards for the examination of recruits and finally the National Health Commissioners have taken up the question of the early treatment of tubercular cases removed from the army I think it is fair to claim on behalf of the medical service that they have done a very great work

The Opinion of Sir F Treves

I should like to quote (said Mr Tennant) the opinion of Sir Frederick Treves, who went through the South African War and the Russo-Japanese War and who also I would remind the House, was at one time a critic of the War Office Sir Frederick Treves said "Those who are familiar with the medical dispositions in the South African War will find in this campaign an advance in the medical services so great and so wide extending as to amount to an actual revolution Not only has the sick and wounded soldier never been so well cared for in any campaign as in the present but it is difficult to suggest in what way his welfare could be further promoted ' Sir Frederick Treves takes a couple of illustrations He says We should note in the first instance such an advanced dressing station as that at Les Brebis The place is a mining village well within range of the enemy's fire, indeed, some 20 shells had fallen into the area on the morning of our visit The hospital is a building which was used by the miners as an entertainment hall This hall makes an excellent ward provided with every necessary detail Attached is a small, carefully equipped operation room where operations of an urgent nature—such as the arrest of hæmorrhage—could be carried out. Here also wounds may be cleansed and redressed fractures more comfortably adjusted and injections of anti tetanic serum given Close at hand were two dug outs into which patients could be taken if the shelling threatened the building The whole station was simple, efficient, and exactly equipped for its limited purpose There was nothing lacking and yet nothing superfluous and the feature of extreme mobility was kept prominently in mind '

Clearing Stations

Reference is made to clearing stations and one at Bailleul is alluded to ' From a surgical point of view these clearing stations represent the most important items in the general scheme for the treatment of the sick and wounded They are as near the front as they can be placed they are readily accessible from the advanced dressing stations while they are in direct touch with the base either by a line of rail or by a good main road The tents are well warmed by stoves and well lit by electric light, while the operating theatre is as well found as any in a civil hospital of its size The huts at Remy and the wards at Bailleul could compare with the wards of any good civil hospital in England To these clearing stations wounded men can be brought in a few hours and it is needless to point out that in the severest gunshot wounds prompt attention is the main factor in the saving of life and limb In many cases a man in need of a grave operation has found himself on the operating table within three or four hours of his being shot We were told of instances in which operations upon the skull and the abdomen had been carried out within two and a half hours of the receipt of the wound Such prompt attention could not be obtained by a wounded civilian in any rural district in England The patient not only finds himself in an operating theatre equipped with the best and most recent appliances but in the case of every one of these hospitals he finds himself in the hands of an operating surgeon of the first order The value of such service cannot be exaggerated At the same time the patient has the advantage of the regular and frequent visits of a consulting surgeon of European reputation Moreover the nursing in these stations is of the highest type, being carried out by the army nursing sisters It must be remembered that a great number (and often the greater number) of the patients arrive at night and that, over and over again, operations are carried out the whole night through It must be noted also that vast shell wounds require constant and elaborate dressing that absorbs much time and can only be carried out by the surgeon himself At Lapugnoy, with its 376 beds no less than 2000 casualties were dealt with in one day We found that at the clearing station at Bailleul the vast number of 61 000 sick and wounded had passed through the hospital since it was opened, while the number of major operations reached to over 1000 In the hospitals we visited we found on all sides evidence that the sick and wounded soldier has the advantages of the latest advances in surgical science the most modern equipment, and the most recent developments in bacteriological work "

WEDNESDAY, MARCH 15TH

The War and the Medical Service

During the course of the debate on Army Estimates Mr R McNeill criticised the organisation of the Royal Army Medical Corps at the front He stated that at Loos the medical staff immediately available was no nearly large enough to deal expeditiously with the wounded, and the organisation had not been sufficiently flexible to bring in promptly the services of the medical officers of divisions which had not been engaged This was due to a too rigid adherence to red tape The War Office had failed to make the best use of the medical talent at its disposal, and in his view a small impartial committee should be appointed to make investigations into the organisation and report to the Government

Mr LONG (President of the Local Government Board), speaking later in the debate, said that the Government, both at home and in India, was doing everything it could for the wounded in Mesopotamia It had been decided some weeks ago to conduct an inquiry into the medical arrangements there and to take all necessary steps to remedy deficiencies The War Office had supplied the Indian Government with two Indian general hospitals with complete personnel, and the personnel of two more Indian hospitals, and also a British stationary hospital of 400 beds and a British general hospital with 1000 beds, together with 100 doctors and 100 orderlies He hoped that that announcement would satisfy the House that the Government was doing its utmost to see that every possible alleviation was being provided for the sufferings of those who were unfortunately wounded

Appointments.

Successful applicants for vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward to THE LANCET *Office directed to the Sub-Editor not later than 9 o clock on the Thursday morning of each week such information for gratuitous publication*

CLUCKIE N G M D Glasg has been appointed Consulting Ophthalmic Surgeon to the Victoria Eye Infirmary Paisley

GILCHRIST J has been appointed Ophthalmic Surgeon to the Victoria Eye Infirmary, Paisley

LYSTER, R A M D Birm , D P H has been appointed Lecturer in Forensic Medicine at St Bartholomew s Hospital

SMITH, A WOOD M D Glasg has been appointed Medical Superintendent of the Royal Hospital for Sick Children, Yorkhill Glasgow

THACKRAY ELIZABETH M B B S Lond has been appointed Deputy Medical Officer to the St Pancras Board of Guardians

WADESON E A. M B B C Cantab has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Sedbergh District of the county of Yorks West Riding

WATSON S J M B B S R.U I has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Abercrave District of the county of Brecon

WISE, A. T TUCKER, M D M R.C S L.R C P Swiss Diploma has been appointed Medical Superintendent to the Devon County Sanatorium at Hawkmoor near Bovey Tracey

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

BELGRAVE HOSPITAL FOR CHILDREN Clapham road S W —Resident Medical Officer for six months Salary at rate of £100 per annum with board residence and washing

BIRMINGHAM AND MIDLAND EYE HOSPITAL Church-street —Resident Surgeon

BOLTON INFIRMARY AND DISPENSARY —Female Second House Surgeon and Female Third House Surgeon Salary £200 and £180 per annum respectively with apartments board and attendance

BOOTLE BOROUGH HOSPITAL.—Junior House Surgeon Salary £170 per annum with board lodging and laundry

BRISTOL GENERAL HOSPITAL.—Casualty House Surgeon for six months or three months Salary at rate of £175 per annum with board residence &c

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN —Female House Surgeon and House Physician Salary £150 per annum with board rooms attendance and laundry

BRISTOL ROYAL INFIRMARY —House Physicians and House Surgeons Salary at rate of £120 per annum with board apartments and laundry

BURNLEY VICTORIA HOSPITAL.—Female House Surgeon Salary £160 per annum with residence board and washing

CAMBRIDGESHIRE ASYLUM Fulbourn near Cambridge —Junior Assistant Medical Officer unmarried Salary £200 per annum with board lodging washing and attendance

CARDIFF KING EDWARD VII S HOSPITAL.—Two House Surgeons for six months Salary at rate of £140 per annum each with board residence and laundry

CHARING CROSS HOSPITAL.—Medical Registrar

DUDLEY GUEST HOSPITAL.—Senior Resident Medical Officer Salary £150 per annum with residence board and washing

EVELINA HOSPITAL FOR SICK CHILDREN Southwark S E —House Surgeon Salary at rate of £160 per annum with board residence and washing Also Clinical Assistants in Out patient Departments

GUILDFORD ROYAL SURREY COUNTY HOSPITAL.—House Surgeon Salary £150 per annum with board residence and laundry

HUDDERSFIELD ROYAL INFIRMARY —Junior House Surgeon Salary £100 per annum with board residence and laundry

KING S LYNN 2/2ND SOUTH MIDLAND MOUNTED BRIGADE FIELD AMBULANCE.—Medical Officers

LEEDS PUBLIC DISPENSARY —Female Resident Medical Officer Salary £130 per annum with board residence and laundry

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—One House Physician and two House Surgeons for six months Salary at rate of £1[illegible] per annum, with board &c

LIVERPOOL INFIRMARY FOR CHILDREN Myrtle street —Resident House Physician and Resident House Surgeon for six months Salary £30 each with board and lodging

MANCHESTER CHILDREN'S HOSPITAL Pendlebury near Manchester —Two Female Resident Medical Officers for six months Salary at rate of £100 per annum

MANCHESTER HULME DISPENSARY Dale street Stretford road —House Surgeon Salary £250 per annum, with apartments attendance coal and gas

NORFOLK HEMPTON FAKENHAM 2/1ST SOUTH MIDLAND MOUNTED BRIGADE —Three Medical Officers

NOTTINGHAM CITY ASYLUM —Senior Assistant Medical Officer unmarried Salary £300 per annum with apartments, board and laundry

PUTNEY HOSPITAL, Putney Common S W —Resident Medical Officer Salary £150 per annum with rooms board and laundry

QUEEN S HOSPITAL FOR CHILDREN Hackney road Bethnal Green E —Temporary Medical Officer

ROYAL LONDON OPHTHALMIC HOSPITAL City road E C —Out patient Surgical Officer Salary at rate of £50 per annum

SALISBURY GENERAL INFIRMARY —House Surgeon and Assistant House Surgeon Salary £150 and £100 per annum respectively with apartments board lodging and washing

SHEFFIELD ROYAL INFIRMARY —House Surgeon Salary £100 per annum with board and residence

SOUTH LONDON HOSPITAL FOR WOMEN 88–90 Newington-causeway S E —Female Assistant Physician and Assistant Surgeon

TOTTENHAM DISTRICT COUNCIL.—Medical Officer Salary at rate of 1½ guineas per session.

UNIVERSITY OF LONDON —External Examiners

VICTORIA HOSPITAL FOR CHILDREN Tite-street Chelsea, S W —House Surgeon Salary by arrangement with board and lodging

WALLSEND BOROUGH EDUCATION COMMITTEE.—Female Temporary School Medical Officer Salary at rate of £300 per annum

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY —Junior House Surgeon Salary £150 per annum with board apartments and washing

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL. —Senior Student to act as Assistant to House Surgeons Board rooms and laundry and honorarium will be given

WOMEN'S HOSPITAL FOR CHILDREN 688 Harrow road W —Anæsthetist Salary £10 L.C C fees £75

THE Chief Inspector of Factories Home Office London S W gives *notice of vacancies for Certifying Surgeons under the Factory* and Workshop Acts at Billingborough in the county of Lincoln and at Lydbrook *in the county of Gloucester*

Births, Marriages, and Deaths.

BIRTHS

BEATTIE.—On March 9th at Ellison place Newcastle-on Tyne to Dr and Mrs Beattie a daughter

CRAIG —On March 12th at Albany street Regent s Park N W to Dr and Mrs James C Craig a daughter

FRAZER.—On March 8th at Colville-square W the wife of Professor J E Frazer F R.C S Eng of a son

HOLROYDE.—On March 12th at Selby Lodge Consett the wife of Lieutenant G Holroyde R A M C of a daughter

MILNE.—On March 10th the wife of Robert Milne M D M S F R C S 21 Park-crescent Portland place W of a son

SEQUEIRA —On March 6th at Woodburn South Queensferry the wife of Fleet Surgeon W S H Sequeira R N of a daughter

WILLAN —On March 14th at Claremont place Newcastle on Tyne the wife of Staff Surgeon R J Willan M V O F R C S R N V R of a son

MARRIAGES

FENTON—FERGUSON —On March 7th at St Matthias Earl s Court square W J Fenton M D Cantab F R C P Lond to L O C Ferguson only daughter of Major H and Mrs Ferguson

HARTRIDGE—WILSON —On March 7th at the Parish Church Kegworth Lieutenant Hamilton Hartridge R N V R M A M B Cantab to Kathleen the only daughter of Hugo and Annie Wilson of Springwell Kegworth Leicestershire

WALKER—MAY —On March 2nd at St James s Church Paddington Dr James Frederick Walker to Alice Cecil only child of the late W S H May of The Elms Kendrick road Reading

DEATHS

BARNES —On March 6th at Merstham Surrey Arthur Richard Barnes M D Edin aged 65 years

BARNICOT —On March 10th at Queen s [illegible] Hitchin Joseph Barnicot M D Cantab from typhoid fever

BENNETT —On March 5th at Hillside Upper [illegible] Wye from pneumonia Edward Bennett [illegible]

BIRD —On March 1[illegible]th at Sutton Oak Charles Thomas Grant Bird M A M B Cantab Ch B aged 32 years

CAMPBELL.—On March 10th at Queen s road Southport Colin [illegible] Campbell M R C S &c aged 63 years

HAYES —On March [illegible]th at Highfield House Basingstoke [illegible] Roche Hayes L R C P Lond J P aged [illegible] years

LANSDALE.—On March 8th at Dunholme Cheltenham Deputy-Surgeon General James Lansdale M D Edin late R A M C in his [illegible] year

PI[illegible]E.—At The Pleasance Denmark Hill Percy Brewster [illegible] M B B S Captain R A M C (T) in his 3[illegible]th year

N B—A fee of [illegible] is charged for the insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents

SUGAR, WAR, AND WEALTH

IT is curious that sugar, war, and wealth have nearly always had a close connexion *In the earliest days sugar* was dispensed as a drug and in very small quantities, later in ounces, and then by the pound About the year 1459 Margaret Paston, *writing to her husband*, who was a gentleman and landowner in Norfolk, begs that he will vouchsafe 'to buy her a pound of sugar By the time of Henry VIII (1509) *it had become* a little more known in England but was a luxury As a luxury and a measure of the growing wealth of the country it was always considered "*On the 8th* March, 1824, one of His Majesty s Ministers in his place in Parliament exulted [so the old record runs] that the consumption of sugar had increased *40 per cent* since 1818 which was an evidence of the increasing prosperity of the country " A hundred years ago in the year 1816, Great Britain retained for home consumption (that is the difference between import and re-export), according to contemporary statistics, 2,096,930 cwt (quoted later by McCulloch as 2,529,931 cwt) the average price per cwt being 48*s* 6*d* with a duty of 30*s* per cwt The main cause of the extension of production of beetroot sugar on the continent was the blockade of continental ports and the exclusion of cane sugar, as in 1800 Napoleon greatly encouraged the French chemists in their attempts to perfect the manufacture of beet sugar, and later by a celebrated decree of 1812 and the consequences may be seen by the fact that in the year 1828 France produced only about 4 000 000 kilogrammes from beet but ten years later made from that source 39,199 408 kilogrammes, and the production increased in the year 1850 to 75,151,128 kilogrammes, a part of the later increase in beet sugar being due to the emancipation of the slaves in the French colonies in 1848 By 1870 the *Journal des Fabricants de Sucre* estimated that the production of sugar from beet in Europe amounted to nearly 1 000,000 tons, and *in the* same year a German authority estimated that there were 1,507 manufactories of sugar in Europe, of which France had 423 Germany 310, Austria Hungary 228, and Great Britain 1 only Ten years ago the consumption of sugar in France had risen to an average of 558 000,000 kilogrammes, or 14 2 kilogrammes per inhabitant (about 31 lb per person) This is a rise since the year 1880 when Mulhall estimated that the consumption in France and Germany was 21 lb per inhabitant It was then 68 lb per inhabitant in Great Britain and 43 lb per inhabitant in the United States, but in Russia and Italy 7 lb per inhabitant only As we import over 1,500 000 tons now the consumption per head in this country must be nearer 84 lb per head The rise in value will be seen by stating that in the year 1886 the value of the imports into this country was about £16 000,000 and in 1912 about £25,000,000 From the year 1883 to 1889 the importation of refined sugar into this country from Germany increased sevenfold Our refineries could not continue under the system of foreign state bounties and the control of the internal and export markets by foreign Kartels or trusts for regulating prices, but although artificial prices might be arranged thus for trade advantages the consumption must necessarily be subjected to the law of supply and demand of the public, and this in its turn to wealth and war

THE HEALTH OF TRINIDAD AND TOBAGO

IN his annual report on Trinidad and Tobago for the year ended March 31st 1915 the Surgeon *General of* Trinidad Dr H L Clare reports that tuberculosis pursues its course *of* havoc in the islands In the absence of official notification the actual incidence of the disease is not accurately known but the prevalence is indicated by the death rate per 1000 living of 1 58 in the whole colony and 3 54 in Port of Spain A voluntary association continues its beneficent work in prevention and treatment employing two trained nurses to visit and educate the infectious cases The evils of bad housing accommodation are very apparent and the surgeon general laments the lack of an institution to demonstrate to the people the advantages and curative influence of light fresh air, and scrupulous cleanliness An intercolonial conference had unfortunately to be given up on account of the war but Dr Clare hopes nevertheless that the Government may give prominence to the urgent need for notification and the means of isolation of dangerous cases

A report prepared by Mr S W Knaggs C M G Colonial Secretary on the latest Blue book of Trinidad and Tobago has also just appeared It gives the present estimated population of the colony as 359,527, in the *proportion of* 187,926 males and 171 601 females *During* the year 1914–15 there were 11,855 births and 8327 deaths, giving a birth rate of 33 4 and a death rate of 23 41 per 1000 of the population 1251 marriages were registered during the year The immigrants introduced from India numbered only 443 the usual recruiting having been suspended for want of transport facilities owing to the war The most *important hospital* is the *Colonial* at Port of Spain with 320 beds The number of patients admitted at this institution during the year 1914–15 was 4464, the *number discharged 3758, and the daily* average in hospital 255 The number of deaths was 669 Of those discharged 1878 were cured, 1585 relieved, and 295 not improved At the *San Fernando Hospital*, which has 120 beds 3026 persons were admitted and 2709 were discharged, the daily average in hospital being 108 District hospitals are *also maintained* by the Government at Tobago, Arima, St Joseph, Tacarigua, Couva, Princes Town and Cedros, with an aggregate accommodation of 246 beds, *while there* are small temporary hospitals at Chaguanas, Sangra Grande, Mayara, and Toco There are *two hospitals* devoted entirely to the treatment of persons suffering *from* yaws—one in Trinidad, and the other in Tobago The former has accommodation *for 200 patients and the* latter for 160 The lunatic asylum in Port of Spain contained on March 31st, 1915 680 inmates (417 males and 263 females), a decrease of 9 *as compared* with *March 31st*, 1914 The number of admissions was 175, the number of discharged 74 and the number of deaths 110 Of those discharged, 48 were *cured*, 16 *relieved, and 10 not improved* In the Leper Asylum, situated about two miles west of Port of Spain, there were at the close of the year 318 inmates (236 males and 82 *females*), *an increase* of 18 as compared with 1913–14 The number of admissions was 110 discharges 45, and deaths 17 Assisted by Mr Rockefeller, the National Health Commission has during the past year waged a vigorous campaign in the colony against ankylostomiasis with very encouraging results The disease is known to be very prevalent, many of the newly imported immigrants from India being found to be infected with it, and it is certainly the cause of many cases of illness and incapacity among the labouring population The people, however *appear to be readily* willing to avail themselves of the advice and help of the commission, and it is hoped that with this and the provision on the estates and elsewhere of proper latrine accommodation the disease will be kept under proper control An endeavour is being made to arrange for the treatment for it of the emigrants from India to the colony before embarkation and also during the voyage

THE YOUNG OFFENDER IN WAR TIME

THE State Children's Association has sent us a letter stating that information gathered from many districts of the United Kingdom shows that there is a disquieting increase in juvenile delinquency The children s offences are usually house-breaking raiding of shops and stalls stone *throwing, the* use of air guns or toy pistols, and wilful damage and destruction An outcry, they say, has been raised against what is termed the growing depravity of *children*, and severer and more repressive punishments are demanded, but it is important to remember that the children are not alone to blame Being the most impressionable and imitative material, they reflect immediately in their conduct and their play every phase of national emotion or local feeling In thousands of homes the father is absent, in many the mother is employed outside her home, *school hours* have been curtailed, and there is a serious lack of men teachers in the boys departments The darkened streets, the lessened number of police, and the *absence* of social workers from boys' clubs, church brigades and scout organisations all have their widespread effect To these must be added the influences of sensational *cinema* shows In Germany similar war influences and conditions have produced a like result *but from* France come no accounts of any important increase in juvenile *offences* In some quarters the outbreak of misdoing is said to be the result of leniency in the *children's* courts and of the probation system, but the association states that the assertion is not borne out by experience The association firmly believes that if the children are to be saved at this crisis it will be by an extended use of the system of reclamation through friendship and not through an increased use of the birch and the reformatory The association appeals to the public, and in particular to women of education and experience, to take up the task of befriending those boys who are rapidly graduating for citizenship Let them offer themselves (*a*) to the justices of the children s courts as probation officers for one two, or more children as their time permits, (*b*) for work in connexion with boys' clubs and kindred organisations, many of which are in abeyance for lack of helpers, (c) as *guides for educational visits to places* of public interest, and in every personal way to counteract the lack of recreative occupation which has left the children more than ever open to the abnormal influences of the times The address of the State Children's Association is 53, Victoria-street, London, S W

SYPHILIS IN THE NEGRO

Dr Walter G Baetz contributes to the Proceedings of the Medical Association of the Isthmian Canal Zone (Vol VII, Part I, Panama Canal Press, 1916) a valuable *study of* 500 consecutive cases of syphilis among coloured canal labourers He *says that a question frequently* asked by medical men visiting the tropics is "Do you see all of the diseases we have in the temperate zones, and, if so, do these diseases in the tropical climate and native run the usual course of their temperate prototypes?" Dr Baetz has failed to find among 20,000 medical admissions to the Ancon Hospital of tropical male negroes a case of acute articular rheumatism, *scarlet fever, or tabes dorsalis,* and has observed only a single case of dementia *paralytica in a negro of Indian type On the other* hand, certain syphilitic manifestations he finds much more frequent among tropical negroes than in Caucasians The relative frequency of syphilitic manifestations expressed in percentages was as follows adenopathy, 88, genital chancre or scar, 65, arthritis, periostitis, exostoses, 60, cerebro spinal lesions, 36, skin lesions, 28, cardio-vascular lesions, 10, *gummata and visceral infiltrations,* 5 *Dr* Baetz finds that in the implantation of the treponema pallidum in the aorta and aortic valves the negro pays a heavy toll Over 31 per cent of cases showed some febrile movement "Tertiary" yaws he regards as a charitable diagnosis of tertiary syphilis Prognosis as regards recovery is bad in this class of ignorant and careless patients "The permanently disabled remain behind as inmates of the chronic ward until relieved by death, while *the relieved ones will return to their habitations to perpetuate* and increase the disease" Dr Baetz concludes that the "negro will always remain a fertile supply depôt for venereal infections The less he is cared for the more will he retaliate by increasing the supply"

A SUGGESTION FOR THE TREATMENT OF OBSTINATE HICCOUGH

A PHILADELPHIA correspondent writes that when doing electrical work on a street car he received a shock of 550 volts, which *passed from one* arm through the chest and down to the other hand His life was saved by being *in series with five 16 c p lamps During the passage of* the current his chest muscles were tense and immovable He suggests an imitation of this process in the treatment of intractable hiccough The patient is to be firmly strapped to the operating table a ring electrode fastened round the neck, the other terminal of 6 in diameter applied to the abdomen, and a sufficient current passed for 10 seconds, a time which our correspondent thinks would suffice The battery should have a range of voltage adjustable *from* 55 *to* 110, with 15 to 250 alternations per second. The skin effect may be avoided by rubbing in vaseline previously He would *be pleased* to learn of any case where the method is tried

A CORONER'S CLERK ON CERTIFICATION

Dubitans makes the following communication "A is in medical practice in a *sparsely populated* district He has a patient aged 94 whom he has not been asked to see for six months Her son comes *for* a bottle *of medicine for her on* a Saturday, stating that she is up and about as usual, but has *difficulty in swallowing* A suggests that she should be seen by him and the son promises, if the medicine does her no good, he shall see her On that understanding the medicine is given On the Monday the son returns, stating that his mother died on the Sunday without complaining *of* anything further A tells him that, not having seen her for six months he must get the coroner's consent *to certify* The coroner gives a form to be signed by the neighbours and by A, after viewing the body, stating *that an inquest is not necessary* and that on the return of the form signed he will give a certificate The head clerk of the coroner is *alleged* by the deceased's son to have told him that as the patient was so old, A should have certified in spite of not *having* been asked to see her for six months Deceased's family are indignant and blame A Did A act correctly?"

The action of A was unquestionably correct and the head clerk was not justified in his statement A could not in the public interest certify without inquiry, as he had not seen his patient *for* half a year He rightly subordinated to a general and higher claim the feelings of a particular family The coroner's head clerk appears not to have risen above a parochial view

FRAMBŒSIA IN FIJI

IN his annual medical report for 1914 to the Legislative Council *of Fiji*, Dr A A Montague, acting chief medical officer, notes that the intentional infection of native children with *frambœsia* is no longer *universal It is* however, probable that most Fijian children still contract the disease It accounts for a large infantile death rate either directly or when complicated by *dysentery* or broncho pneumonia In its tertiary stage it is responsible for a large *proportion of the serious disease* occurring among Fijians At the Colonial Hospital 31 cases of secondary *frambœsia* and 205 of tertiary frambœsia were treated during the year To the provincial hospitals 1046 cases of the disease mainly in its tertiary stage, were admitted out of a total of admissions from all causes of 3793 Dr Montague adds that salvarsan continues to give admirable results in this disease, and the number of recorded relapses after its use is small

TROMMER'S MALT EXTRACTS

Messrs F Newbery and Son, *Limited, of* Charterhouse square, London, E C, ask to be allowed to point out, in *response to recent* inquiries, that the constitution of the Trommer Company is entirely British, that their malt extracts are of British manufacture, and that none of their share capital has at any time been held by alien enemies These preparations have been referred to in our analytical columns

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BOOKS, ETC, RECEIVED

COLLEGE OF PHYSICIANS Philadelphia
S Weir Mitchell M D LL D F R S 1829-1914 Memorial Addresses and Resolutions

FORBES AND COMPANY Chicago
Painless Childbirth: Eutocia and Nitrous Oxid-oxygen Analgesia By Dr Carl Henry Davis Price $1

HODGE, WILLIAM AND Co London
Construction Equipment, and Management of a General Hospital By Donald J Mackintosh M V O M B LL.D F R S E Second edition Price 15s net

KIMPTON HENRY London
Essentials of Medical Electricity by E Reginald Morton M D F R C S Third edition revised and re written with addition of new matter by Elkin P Cumberbatch M A M B Ch.B Price 6s net

LIVINGSTONE, E AND S Edinburgh
Wheeler's Handbook of Medicine By W R Jack B Sc M D F R F P S Glasg Fifth edition Price 8s net

MACMILLAN AND Co London
Who is Insane? By Stephen Smith A.M M D LL.D Price 5s 6*d* net
The Treatment of Acute Infectious Diseases By Frank Sherman Meara, M D Ph D Price 15s net
Keeping Physically Fit Common sense Exercises for the Whole Family By William J Cromie Price 4s 6*d* net

MASSON ET CIE. Paris
Précis de Médecin Operatoire Par Aug Broca, Professeur d *Opéra*tions et Appareils à la Faculte de Médecine de Paris Price 9fr

MILFORD HUMPHREY London. COLUMBIAN UNIVERSITY PRESS New York
Harvey's Views on the Use of the Circulation of the *Blood By* J G Curtis M D LL.D Price 6s 6*d* net

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Medical Diary for the ensuing Week.

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W

MEETINGS OF SECTIONS

Wednesday March 22nd.

OPHTHALMOLOGY (Hon Secretaries—Elmore W Brewerton Arthur W *Ormond*): at 8.30 P M

Paper

Colonel Lister A M S and Lieutenant Colonel Gordon Holmes R.A M C Disturbances of Vision from Cerebral Lesions with Special Reference to the Cortical Representation of the Macula.

NEUROLOGY —Members of this Section are specially invited to attend the meeting of the Section of Ophthalmology (see above)

Friday March 24th.

STUDY OF DISEASE IN CHILDREN (Hon Secretaries—J D Rolleston A. S Blundell Bankart *Sidney Gilford*): at 4.30 P M

Cases

Dr E A. Cockayne: (1) Sclerodermia; *(2) Paroxysmal Hemoglobinuria.*
Dr E B Gunson *Gangrene of Leg following* Diphtheria
Dr J L. Bunch A Papulo-necrotic Tuberculide
Dr H. Thursfield *Rickets:* Multiple Fractures
And other Cases.

Specimen

Dr J D Rolleston: Brain of "Mongolian" Imbecile

Short Papers

Dr R. Hutchison: Report on a Case of Hemi hypertrophy with Post mortem Examination
Dr H C Cameron: Osteogenesis *Imperfecta (Illustrated by* cases and skiagrams)

MEDICAL SOCIETY OF LONDON, 11 Chandos-street, Cavendish square, W

MONDAY —8.30 P.M. Discussion on Gunshot Wounds of the Spine introduced by Captain J S Collier (Medical Aspect) and Lieutenant-Colonel D Armour (Surgical) Followed by Major F W Mott, Captain W Harris, Dr L. Guthrie, Captain E Adams Captain F Buzzard Major G N Pitt, Dr S A. K. Wilson and Dr E G Fearnsides

LONDON DERMATOLOGICAL SOCIETY, St. John s Hospital 49 Leicester-square W C

TUESDAY —4.30 P.M. Cases sent for Consultation Demonstration of Pathological Specimens Exhibition of Clinical Cases 5 30 P.M Paper —Dr J L. Bunch: Dermatitis due to Hair Dyes.

HUNTERIAN SOCIETY, 1 Wimpole street, W

WEDNESDAY —9 P M. Annual Discussion:—The Relationship of the Medical Profession to the State and the Community (opened by Dr F J Smith) Sir John Collie Dr T D Lister, Mr L Dodd and others will take part in the discussion.

LECTURES, ADDRESSES, DEMONSTRATIONS &c

ROYAL COLLEGE OF SURGEONS OF ENGLAND Lincoln s Inn Fields W C

Course of Lectures on the Anatomy of the Human Body for First-aid and Ambulance Students (open to all members of ambulance companies and first-aid classes):—

MONDAY WEDNESDAY AND FRIDAY —5.30 P M Prof A. Keith 4 P M to 7 P M. Exhibition of Anatomical Preparations and Specimens in the Theatre on lecture days and between 10 A.M and 5 P M in the Hall of the Museum on the following day

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith road W

MONDAY —2 P.M., Medical and Surgical Clinics X Rays Mr Gray: Operations Mr B Harman: Diseases of the Eye. Dr Simson: Diseases of Women.

TUESDAY —2 P.M., Medical and Surgical Clinics X Rays Mr Addison: Operations. Dr Banks Davis: Diseases of the Throat, Nose, and Ear Dr Pernet: Diseases of the Skin.

WEDNESDAY —10 A.M., Dr Saunders: Diseases of Children. Dr Banks Davis: Operations of the Throat, Nose and Ear 2 P M., Medical and Surgical Clinics. X Rays Mr Pardoe: Operations Dr Simson: Diseases of Women.

THURSDAY —2 P.M., Medical and Surgical Clinics X Rays Mr Gray: Operations. Mr B Harman: Diseases of the Eye.

FRIDAY —10 A.M. Dr Simson: Gynæcological Operations 2 P.M., Medical and Surgical Clinics. X Rays. Mr Addison: Operations. Dr Banks Davis: Diseases of the Throat, Nose, and Ear Dr Pernet: Diseases of the Skin.

SATURDAY —10 A.M, Dr Saunders: Diseases of Children. Dr Banks Davis: Operations of the Throat, Nose and Ear Mr B Harman: Eye Operations 2 P.M. Medical and Surgical Clinics X Rays Mr Pardoe: Operations

NORTH EAST LONDON POST-GRADUATE COLLEGE Prince of Wales s General Hospital, Tottenham N

MONDAY —Clinics:—10.30 A.M. Surgical Out-patients (Mr E Gillespie) 2.30 P.M., Medical Out-patients (Dr T R. Whipham): Gynæcological Out-patients (Dr Banister) 3 P M, Medical In patients (Dr R. M. Leslie)

TUESDAY —2.30 P.M. Surgical Operations (Mr Carson) Clinics:—Medical Out patients (Dr A. G Auld) Surgical Out patients (Mr Howell Evans); Nose, Throat, and Ear Out-patients (Mr C H. Hayton) Radiography (Dr Metcalfe) 3.30 P.M., Medical In-patients (Dr A. J Whiting)

WEDNESDAY —Clinics:—2.30 P.M. Throat Operations (Mr C H. Hayton) Children Out-patients (Dr T R Whipham); Eye Out-patients (Mr R. P Brooks) Skin Out-patients (Dr H. W Barber) 5.30 P.M. Eye Operations (Mr R. P Brooks)

THURSDAY —2.30 P.M. Gynæcological Operations (Dr A. E. Giles) Clinics:—Medical Out-patients (Dr A. J Whiting) Surgical Out-patients (Mr Carson) Radiography (Dr Metcalfe) 3 P.M., Medical In patients (Dr R. M. Leslie)

FRIDAY —2.30 P M., Surgical Operations (Mr Howell Evans) Clinics:—Medical Out-patients (Dr A. G Auld) Surgical Out-patients (Mr E. Gillespie); Eye Out-patients (Mr R. P Brooks)

THE THROAT HOSPITAL, Golden square W

MONDAY —5.15 P M., Special Demonstration of Selected Cases

THURSDAY —5.15 P.M. Clinical Lecture.

ROYAL INSTITUTION OF GREAT BRITAIN Albemarle-street Piccadilly W

THURSDAY —3 P M Prof H E. Armstrong: Organic Chemistry in War—Organic Products used as Propulsive and Explosive Agents. (Lecture II)

FRIDAY —5.30 P.M Prof W M. Bayliss: The Mechanism of Chemical Change in Living Organisms.

For further particulars of the above Lectures &c., see Advertisement Pages

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments)

THE LANCET Office, March 15th 1916

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks
Mar 9	29·910	N E.	—	67	42	32	33	34	Overcast
10	29·810	N E.	—	44	37	34	34	36	Raining
11	29 436	N E	0·09	33	38	35	36	36	Overcast
„ 12	29·330	„	0·03	79	51	36	37	40	Overcast
„ 13	29·670	E	—	57	43	36	38	39	Overcast
14	29·732	E.	0·39	72	50	39	43	43	Overcast
15	29 6 6	N E.	—	63	49	39	40	40	Overcast

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title-page to Vol. II of 1915 were given in THE LANCET of Dec. 25th, 1915

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VOLUMES for the second half of the year 1915 are now ready Bound in cloth, gilt lettered, price 16*s*, carriage extra.

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The Chadwick Lectures
ON
TYPHUS FEVER IN SERBIA

Delivered at the Royal Society of Medicine on Oct 20th and 29th and Nov 3rd, 1915,

By R O MOON, M D Oxon, F R C P. Lond,
CONSULTING PHYSICIAN WESTERN GENERAL DISPENSARY, MARYLEBONE, ETC

LECTURE II [1]

The Relation of Typhus to Plague

Mr. President and Gentlemen,—It is a customary jest among the laity to say that doctors are always inventing new diseases, and certainly when we consider the ever flowing stream of jaw cracking medical terms, together with the increasing output of medical literature, there does seem to be some justification for the complaint Yet in most cases what appears to be the classification of a new disease is really only the differentiation of that disease from a pre existing family of diseases "Omnis determinatio est negatio," said Spinoza—that is, whenever we define a disease we strip away from it the attributes which it does not possess We are continually dividing up and classifying diseases afresh and giving to them new names as a convenient sort of shorthand. Just as there was a time when people spoke of one kind of rose and the term rose covered a great variety of what we now know to be different species, so there was a time when the term "fever" denoted a great variety of fevers having doubtless the common characteristics of a quickened pulse, raised temperature, and an increased frequency of respiration yet each one being an entirely separate entity To a layman it must seem strange that such diseases as measles and small pox should ever have been confounded yet such common diseases were not definitely distinguished until 900 A D by the Arabian physician Rhazes in a treatise which has been translated into Syriac, Greek, and Latin Small pox used to be regarded as a more severe kind of measles, the technical term "morbilli" comes from the Italian, and means "little disease," as compared with the great disease of small pox or variola Like many other things in life, when once we have found the key to the problem we wonder how the mistake could ever have arisen or how two such dissimilar diseases could ever have been confused But, as Pascal says the more intelligence we have the greater is the difference which we perceive in things In all this question of classification we must beware of deceiving ourselves with words or in applying a name where there is no intellectual concept, in fact, it is this very thing which Mephistopheles in Goethe's *Faust* recommends the medical student to do With the possible exception of politics, there is nothing in which it is so important as in medicine to realise that words are the counters of wise men and the coin of fools

Now, typhus was not definitely separated off from other diseases till the middle of the eighteenth century, formerly it had occurred under the general name of fever, and was certainly confounded with plague to which it has a superficial but only a superficial resemblance the two diseases being in their essence entirely different Now that we know plague to be due to the bacillus pestis thanks to the researches of Kitasato in 1894 it is obvious that it has nothing to do with typhus and yet it would seem to flourish in the same kind of soil, more particularly dirt poverty, and overcrowding are favourable to its production, just as they are to that of typhus, but there is not the same connexion between plague and war as there is between typhus and war The characteristic symptom of plague is the swelling of the lymphatic glands the glands most usually affected being the inguinal hence the name "bubonic plague"

The "Plague" of Thucydides

Going back to quite early times, there is a general consensus of learned opinion that the disease which ravaged Athens in the second year of the Peloponnesian War (430 B C), and was described by Thucydides as the plague, was in reality identical with typhus [2] It is worth while considering in some detail this description by the Greek historian, as it is perhaps the earliest description extant by a layman of a really important disease We are told by Thucydides that this "plague" first attacked the inhabitants of the Piræus, then reached the upper city, where the mortality became far greater The crowding of the people out of the country into the city aggravated the general misery, and the newly arrived suffered most, for, having no houses of their own, but inhabiting in the height of summer stifling huts, the mortality among them was dreadful, and they perished in wild disorder The dead lay as they had died one upon another, while others, hardly alive, wallowed in the streets and crawled about every fountain craving for water The rapidity of the onset, which Thucydides describes, is very characteristic of typhus and so, too, are the violent heats in the head, together with redness and inflammation of the eyes "The sufferers could not bear to have on them the finest linen garment, they insisted on being naked, and there was nothing they longed for more eagerly than to throw themselves into cold water Many of those who had no one to look after them actually plunged into the cisterns, for they were tormented by unceasing thirst, which was not in the least assuaged whether they drank little or much They died either on the seventh or ninth day, not of weakness, for their strength was not exhausted, but of internal fever, which was the end of most" This high fever is much more like typhus than plague, for the latter kills its victims earlier than the seventh or eighth day We are told further by Thucydides that physicians were among the first to be attacked because they oftenest came into contact with the disease "Some of the sufferers died from want of care, others equally who were receiving the greatest attention No constitution was strong enough to resist or weak enough to escape the attacks Most appalling was the despondency which fell upon anyone who felt himself sickening for he instantly abandoned his mind to despair and, instead of holding out, absolutely threw away his chance of life The violence of the calamity was such that men, not knowing where to turn grew reckless of all law human and divine The customs which had hitherto been observed at funerals were universally violated, and they buried their dead each one as best he could Many having no such appliances because the deaths in their household had been so frequent made no scruple of using the burial place of others When one man had raised a funeral pile, others would come and, throwing on their dead, first set fire to it, or, when some other corpse was already burning before they could be stopped would throw their own dead upon it and depart" Thucydides goes on to speak of serious moral changes Thus "men reflected that life and riches were alike transitory, and they resolved to enjoy themselves while they could and think only of pleasure Who would be willing to sacrifice himself to the law of honour, when he knew not whether he would ever live to be held in honour? Those who saw all perishing thought that the worship or neglect of the gods made no difference For offences against human law no punishment was to be feared, no one would live long enough to be called to account Already a far heavier sentence had been passed and was hanging over a man's head, before that fell, why should he not take a little pleasure?" Plague appears to have been of great antiquity in Egypt, and Cicero tells us that the ibis was considered sacred by the Egyptians because it kept away the plague (*avertant pestem ab Ægypto*)

The Pestilence in the Reign of Marcus Aurelius

The next historic instance of what was called "plague" in those days took place in the reign of Marcus Aurelius (165 A D) It has been described by Galen, and from the close resemblance of his description to the plague at Athens there is little doubt that it also was really typhus It synchronised with serious earthquakes, tremendous floods, swarms of locusts, and famine It appears that Syria was the starting point of the pestilence In order to suppress a rising of the Syrians an army under Avidius Cassius, later followed by Lucius Verus, whom Marcus Aurelius had associated with himself in the empire, was led into Syria Prior to the conquest of Seleucia the troops had suffered from want and sickness After the surrender of the town, where 40,000 men had been crowded together, the pestilence broke out among the Romans According to the story, the Roman soldiers hunting for treasure in the temple of Apollo entered into a small store room, out of which, through the magic arts of the Chaldæans, the germ of the disease issued forth This story was carefully spread about by the Chaldæan priests so as to let the sickness appear to be a punishment for the pollution of the sanctuary, at the same time it bears witness to the fact that the contagious character of the pestilence was already recognised The army of Lucius Verus, with its long train of camp followers, feasted themselves in Antioch, Laodicea, and the other towns through which they passed, thus spreading the disease far and wide through the provinces of the Roman Empire On reaching Rome the ravages of the disease were so violent that Marcus Aurelius instituted a general "Lustration," introduced new gods, and ordained a seven days Lectisternium Nevertheless the pestilence continued in its virulence, corpses were brought out of the city in cartloads, and the dead from the poorer classes had to be buried at the public cost Orosius tells us that Rome and the neighbouring provinces became so desolated that here and there whole villages and towns, abandoned by their inhabitants, fell into ruins Outside the Roman Empire the Germans were affected by the disease, and also Gaul and Scotland According to Galen, the epidemic lasted 15 years (165-180), at the end of which time the Emperor Marcus Aurelius himself died of the disease During this long period there is no doubt that some of the cases described by Galen were really cases of small pox, thus he speaks of the rash coming sometimes in the form of pustules

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[1] Lecture I was published in The Lancet of May 27th p 1069

[2] A careful consideration of this subject may be found in a paper read by Dr R Crawfurd before the International Congress of Medicine held in London in 1913

Another serious pestilence which seems to have included cases of true plague and typhus perhaps also diphtheria and ergot gangrene, broke out in 250 A D and lasted till 256 During this period there were numerous alarming natural phenomena Thus, in 251 there was an earthquake in Cornwall, in 253 an eruption of Etna, besides numerous earthquakes in Asia, Africa, and Rome, while many coast towns were overwhelmed by floods We are told that the disease was spread by clothes, which is more suggestive of typhus than plague, and also by the look, which must have meant the evil eye An ecclesiastical writer tells us that the pestilence first broke out in Neo Cesarea, in Pontus, in an overfilled theatre in which games were being celebrated in honour of Jupiter, after the people in an irreverent mood had called on the god to make room for them

The Justinian Plague Other Epidemics

The well known pestilence in the time of Justinian which continued off and on for a period of 50 years, known as "the Justinian plague" (530-580), doubtless really was true bubonic plague, although some descriptions of it, in particular that by Evagrius, are so like the plague of Thucydides that typhus must certainly have occurred concurrently with it This great epidemic of the sixth century began in the Delta land of Pelusium near to Damietta, between the Serbonian Bog and the eastern branch of the Nile, according to Procopius, who is said to have observed its progress and symptoms with the eyes of a physician, it then passed eastwards to Palestine and Syria and westwards to Alexandria Some towns were attacked so violently that they almost ceased to exist, thus there was great destruction at Antioch in 526, where the pestilence broke out amid earthquakes and fires, 250,000 met their death here According to Procopius, during the whole of this year the sun looked as though it were in a condition of continual eclipse He also tells us that the pestilence had such an evil effect upon the morals of the people that there was such general unbridled licence that it seemed as though the disease had only spared the worst of the population

Both Procopius and Evagrius maintain that immediate contact with those affected did not give rise to the disease that doctors and attendants on the rich were not more but less attacked, while many who absconded succumbed to it Modern experience has confirmed these observations for very few attendants in hospital have contracted plague At Constantinople it is said that many were attacked by the pestilence after apparitions in dreams or while waking had warned them of their threatening danger

No facts have been preserved which enable us to estimate the mortality of this plague which lasted for 50 years but Gibbon as a result of his researches says "I only find that during three months five, and at length ten thousand persons died each day at Constantinople, that many cities of the East were left vacant, and that in several districts of Italy the harvest and the vintage withered on the ground The triple scourge of war, pestilence, and famine afflicted the subjects of Justinian, and his reign is disgraced by a visible decrease of the human species, which has never been repaired in some of the fairest countries of the globe "[3]

There is little doubt that the Black Death which ravaged Europe in the middle of the fourteenth century is the same as that which we now know as true bubonic plague, in that overwhelming calamity some 25,000,000, or a quarter of the population of Europe, died from the disease After that it became established as an endemic disease in England and other parts of Europe, the last appearance in England being in 1665, when 70,000 persons perished

The pestilence which originated in Cyprus 1505-28 and ravaged almost the whole of Italy was undoubtedly typhus fever, this is probably also true of the disease called "morbus Hungaricus" which raged in the army of Charles V during the siege of Metz in 1552. At this time the Italian physician Frascatorius gave a description of it, distinguishing it from plague, he called it "morbus lenticularis

Mode of Spread and Symptoms

Before an outbreak of plague rats often die in large numbers, and this is regarded by people in China and India as a sign of a coming epidemic Curiously enough in the Old Testament, in the first book of Samuel, a fatal disease among field mice is recorded which affected the Philistines[4] and was probably plague There is little doubt that the virus exists underground before it affects human beings Contrary to the conditions of typhus, epidemics of plague have often been preceded by a long drought, but like typhus, all the localities in which plague flourishes are conspicuously filthy, a soil contaminated with decaying animal matter of all kinds would seem to be an essential condition for the vitality of the virus Like typhus, there is not much communication of the disease through the air

Owing to the frequent concurrence of plague and typhus such acute observers as Diemerbroech and Sydenham were induced to believe that the one disease might be transformed into the other, the error is not an unreasonable one when we consider that much the same kind of soil is favourable to each disease, thus plague, like typhus has often followed on famines, wars, and other calamities which produce destitution and a lowered state of health, though unlike typhus, epidemics of plague have often been preceded by a long drought Such views, of course, were held long before we knew anything about micro organisms Clinically speaking, the raging delirium and the frequent occurrence of gangrene of the extremities, while common in typhus are rare in plague, the hoarseness and laryngeal catarrh which are frequent in typhus are not a feature of plague Then too we have the rash of typhus and the inguinal swellings in plague to guide us to a correct diagnosis

There is plenty of evidence in the case of plague that the lower animals may be affected with it, particularly mice rats and dogs, house flies and fleas also may convey the disease, whereas there is very little evidence that the lower animals are affected by typhus In the case of both diseases a second attack and relapses are most rare

Communication of plague from one person to another in the open air or by casual meeting is very rare if it ever occurs and it is certainly not so contagious as small pox or scarlet fever Nor does it appear to be conveyed by water The long life of the organism and the probable infection through the skin make the hygienic condition of the individual the home, and the community matters of the highest importance The poorer classes are always the chief if not the only sufferers It was observed in Malta in 1913 that the plague was far less common in the upper storeys of the lofty houses of Valetta than in the basements

RELATION OF TYPHUS TO RELAPSING FEVER

Another disease long banished from Western Europe but which still occurs with fair frequency in Serbia and the Balkan Peninsula is relapsing fever Though essentially it is quite unlike typhus fever yet at any particular stage it may bear a remarkable resemblance to that disease more particularly from the point of view of complications, thus pneumonia and respiratory affections generally together with transient forms of peripheral neuritis are common in both diseases Practically, however, the great point of distinction lies in the fact that relapsing fever, or "febris recurrens,' as it is called on the continent, is a much less serious disease than typhus fever, whereas the mortality of the former is rarely more than 2 per cent that of the latter may rise to from 30 to 40 per cent. Unless considerable care is taken confusion easily arises in the statistics of these two diseases, so that one may readily get a false conception of what is happening In the past it has prevailed extensively in Europe, especially in Ireland. It is common in India, where the conditions for its development seem always to be present In 1869 there was quite an epidemic of it in New York and Philadelphia, thought to have been introduced by Irish immigrants but only an occasional case has been met with in Great Britain during the past 20 years Being a far less fatal disease than typhus and of shorter duration, it was at first regarded as a milder form of typhus

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[3] Gibbon vol v p 3[illegible]

[4] I Samuel v and vi

Oddly enough Hippocrates gives an account of a disease which he had himself observed in the island of Thasos, and which bears a close resemblance to relapsing fever as we know it to-day But from the time of Hippocrates it appears to have been lost sight of, at least, no mention of any disease at all resembling relapsing fever occurs in medical literature until 1770, when Rutty wrote describing "the weather, seasons and diseases in Dublin" But for a long time after this it was mixed up with other fevers, and more particularly with typhus, from which it was not finally differentiated till 1826 In that year there was an epidemic of relapsing fever in Ireland which first appeared among the working classes, who suffered great distress from the stoppage of the factories caused by the war between Turkey and Russia and also from failure of the potato crop

Now, as we have said before, it seems strange when once we know the distinction between the two diseases to realise how they could ever have been confused. In the one case we have a disease—typhus—characterised by a severe fever lasting about 14 days and with a high mortality, in the other case we have a fever lasting on an average seven days, with one or more relapses or recurrences which is almost unknown in any other fever, and also a very low mortality, finally, in typhus there is a very characteristic rash while in relapsing fever there is no rash or only one quite exceptionally Of course, when confronted with a case as one frequently was in Serbia, with an entire uncertainty as to the history of the patient endeavouring to interpret the poor man's complaint out of Serbian, Czech, or Hungarian into German, which was our usual linguistic medium of exchange, the distinction between typhus and relapsing fever is by no means simple Of this I had some very practical experience on one occasion when I was asked to go to the station at Skoplje to meet a train coming from Nish with 150 sick and there to sort out those suffering from typhus from those with relapsing fever, so that they might be sent to different hospitals In both diseases alike there would be high fever and rapid pulse, together with flushed face and injected conjunctivæ, also some enlargement of the spleen, which however, is more noticeable in relapsing fever than in typhus Speaking generally from my experience I should say that there is more actual suffering in relapsing fever than in typhus though the former is a much less serious disease, possibly the greater delirium and general obfuscation of the cerebral faculties may render the typhus patient more oblivious of his sufferings Striking and troublesome, for instance, as was the feature of ' tender feet" in typhus it was more intense and widespread in the cases of relapsing fever Then too there is that curious contrast with regard to pregnant women whereby gestation is almost invariably brought to an end in the case of relapsing fever, whereas in typhus the gestation is unaffected. Convalescence from relapsing fever is apt to be slow as compared with that from typhus, and it confers but little immunity

Causation of Relapsing Fever

Relapsing fever has this particular interest for science in that it was the first specific disease in which the micro-organism known as the spirillum of Obermeier was discovered in 1673 In all probability this spirillum or its spores are given off with the breath or from the skin and are received into the air vesicles of the lungs with the inhaled air, they are not conveyed in drinking water It is exceedingly apt to pass from hospital patients to nurses and doctors It may be transported to a distance by infected clothes, and in Edinburgh in 1843 it was noticed that a large number of laundry women contracted relapsing fever, though they had no other communication with the sick than washing their clothes and bedding In many cases it would seem that the contagion is communicated from one individual to another by means of blood sucking insects, such as ticks, &c, there are also instances of the disease having been contracted by the handling of the bodies of those who had died from it

When we come to consider the remoter causes of relapsing fever, or rather the soil which favours its development we are struck by the large consensus of opinion which regards it as due to poverty, overcrowding and insanitary conditions Murchison who made a prolonged and very detailed study of continued fevers, was of opinion that the teaching of history showed typhus fever to be the pestilence of war, of camps, and of sieges while relapsing fever is the pestilence of famine Thus, while relapsing fever is associated specially with destitution,[1] typhus is associated with destitution and overcrowding combined

The epidemics of relapsing fever of 1817–19 raged during a period notorious in British history for low wages and high prices of food due to the fall of the markets which had been inflated during the continued war, while the epidemics of 1843–44 and 1847–48 occurred about the time of the great Irish famine, and during the general destitution which played so large a part in causing the abolition of the Corn Laws and in preventing their re enactment

The German name "Hungerpest" for relapsing fever points unmistakably to the connexion in German opinion between relapsing fever and the existence of destitution When an epidemic of it occurred in Silesia in 1847 the inhabitants, in consequence of a succession of bad harvests, had been reduced to subsisting upon cloves, grass, mushrooms, and the roots of trees

In 1870, which is the last time there has been any serious outbreak of relapsing fever in Great Britain there was an epidemic in Liverpool, and THE LANCET Report on the subject showed that there were three principal causes (1) The sites of the houses, which were frequently placed on decaying animal and vegetable matter, (2) insufficient drainage, and (3) the extensive prevalence of cellar dwellings in darkened and filthy courts

Professor Clifford Allbutt in the epidemic of relapsing fever in England in 1870 saw a good many patients who, after contracting relapsing fever and recovering from it in the course of a few weeks, took typhus, he did not see any who had typhus first and then relapsing fever In the cases in which typhus followed upon relapsing fever in the same patient within a short interval of time it seemed to him that the typhus pursued a milder course than might have been expected had the patient suffered primarily from typhus He suggests that if ever the micro-organism of typhus is discovered it will be interesting to know whether in genus or in species it is related to relapsing fever, so that the occurrence of one disease may modify the course of the other, as is the case with vaccination and small pox.

THE RELATION OF TYPHUS TO ENTERIC FEVER.

The last important disease, from which typhus had to be disentangled, so to speak, was enteric fever, which is perhaps better known under the name of typhoid fever The official name is more satisfactory than typhoid fever, because the latter seems to imply a resemblance to typhus which does not really exist. True it is that they were not clearly distinguished till towards the middle of the last century, and that they have clinically some superficial resemblances, yet they are essentially entirely different diseases In passing, I might point out for the benefit of the non medical part of my audience that enteric fever has nothing to do with enteritis, the latter being a somewhat general term for inflammation of the intestinal canal with no reference to any specific disease, thus people may hear of their friends in Flanders or Gallipoli suffering from enteritis, and may be morbidly apprehensive that it is something closely allied to enteric fever. Now, the great difference between typhus and enteric fever lies in the fact that, while in the former the disease spreads all over the body, affecting all tissues indifferently, in the case of enteric fever the disease, though also a general disease, has a special localisation—namely in the glands of the lower part of the ileum and the large intestine. The distinction between these two diseases was a great triumph of morbid anatomy, which in the present day is rather out of fashion. It was in fact hardly possible to make this distinction until the holding of post-mortem examinations and the consequent increased study of morbid anatomy became part of the usual routine of hospital work.

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[1] Relief of extreme destitution in districts where relapsing fever was prevailing has repeatedly been followed by subsidence of the epidemic, starvation renders persons more susceptible to the contagion either by weakening the power of the living cells of the body to cope with the invading microbes or by favouring the development of the latter more directly "—Principles and Practice of Medicine Fagge and Pye-Smith third edition, vol. i., p 132.

The first recognition of enteric fever in England, though, of course, it was not called by that name, was a description given us by Willis of an epidemic which occurred in the Civil War of 1643. Willis appears to have recognised the intestinal lesion as something distinct from either plague or typhus. Baglivi, in Italy, wrote of it under the name of "febris mesenterica," while in Germany Hoffmann, during an epidemic in Halle in 1699, and again in 1728, noted some of the clinical features which separated it from typhus, and described the ulceration of the intestine in fatal cases.

In 1737 Huxham, of Plymouth, drew a sharp distinction between the slow nervous fever, which was obviously enteric fever, and the more acute, malignant fever, which was typhus. Later in the eighteenth century there seems to have been a general recognition of an intestinal fever, which was probably regarded as one variety of the "continued fevers," and though the two types of slow nervous and acute malignant fever were vaguely perceived, no really scientific distinction was made between them.

Final Recognition and Advance in Knowledge of Typhoid.

What seems finally to have led to definite recognition and isolation of the two diseases was the fact that English and American doctors in the first half of the last century studying in Paris, where enteric fever was specially present, on returning to their homes found themselves mainly confronted with typhus, and thus they readily recognised that it was not the same disease as that with which they had become familiar while studying in Paris. The French physicians of that time seeing only the one disease, thought that the intestinal ulcers would be found in all cases of the disease known as jail fever or typhus. But Gerhard, of Philadelphia, who had studied in Paris and there had become familiar with enteric fever, on his return to Philadelphia, when there was an outbreak of typhus (1837), set out clearly the distinction between the diseases and also differentiated them from malarial fever. Thus the distinction seems to have been made earlier in the United States than in any other country.

In England the two fevers were about equally prevalent and the intestinal lesions were regarded as merely accidental occurrences in certain of the cases, the question was not finally set at rest in England until the work of Jenner (1849-51) proved by a close observation of the two diseases at the London Hospital, with post-mortem examination their essential difference. But the old views were abandoned slowly and the innate conservatism of the Irish led Irish physicians to maintain the identity of the two fevers even as late as 1861. In Germany Schönlein (1839) proposed the names of "typhus abdominalis" for what we call enteric fever and "typhus exanthematicus" for what we know as typhus, these names are still used by German speaking people, and these are the names which I was accustomed to write on the bed letters of the Serbian patients.

We have now much greater knowledge of enteric fever than of typhus. Thus as far back as 1880 the bacillus of enteric fever was discovered by Eberth as the specific cause of the disease, while that of typhus is still to seek. This bacillus has about the same limits of latitude and longitude as man himself so that no country or race is known to be immune from the disease. It is indeed dependent on man for its existence, though it may live for a time in water or on various articles yet its life in such situations is comparatively short, it may be blown about with dust or carried by flies. Even 20 years prior to the discovery of Eberth an English doctor in the provinces—W. Budd of Bristol—had surmised that the infective agent in enteric fever was to be found in the patient's dejecta, hence, if these could be adequately sterilised the disease might disappear altogether and indeed, the rapid diminution of this disease in Western Europe, especially in those countries and towns where sanitary science is most advanced, shows that we need not despair of its total disappearance. Owing to a method introduced by the French physician Widal, we know how to diagnose enteric fever with very great certainty, while the wonderful immunity which our troops have enjoyed from it is largely due to the prophylactic knowledge gained for us by Sir Almroth Wright. Apart from this method of inoculation, the most important means for preventing the occurrence of enteric fever in communities are the securing of a pure water supply and the effective disposal of excreta. How useful such hygienic measures may be is demonstrated by the fact that in the United States enteric fever is more prevalent in rural communities than in cities where the sanitary arrangements are so much more efficient. Without wishing to complicate this question unduly, I ought, before leaving this subject, to say that we seem in process of splitting up enteric fever still further, and that there are micro organisms called paratyphoid A and B which give rise to enteric fever, but with this difference, that the whole disease is of a milder type, its total duration being shorter and the fever showing more marked remissions.

SUMMARY.

We have thus passed in review three important diseases, with which in the past typhus has been frequently associated, and with which it has been often confused. Curiously enough, we have a much greater scientific knowledge of the plague, relapsing fever, and enteric fever than we have of typhus. In each of the three first-named diseases the micro-organism has been discovered, while that of typhus remains still unknown. In spite of this ignorance, we have been as successful in banishing typhus from its favourite habitats as we have been in the case of many other diseases if not more successful. Practically speaking, it comes to this, that in countries where typhus used to be endemic, in proportion as the knowledge and practice of hygiene and sanitary science have advanced so has typhus receded, consequently, in Great Britain where sanitary science has been most highly developed, it may be said that typhus has practically ceased to exist. Even then, if we do not discover the specific organism of typhus, but remain in the same position with regard to it as we are in face of measles, scarlet fever, and small pox, we may yet be able, in other countries where it is still endemic by improved methods of hygiene, to banish typhus or render it a *quantité negligeable*. And this service in particular we can render to our Allies in the Balkan peninsula by showing them as indeed we have been doing during the past year, how to avoid the mistakes which we ourselves have made in the past and how much disease may be got rid of by simple methods before they have acquired the accumulated capital which renders it possible to build great laboratories for the research into the origin of disease. Just as after the war by exporting capital to Russia we may help much in the development of her industries, so now by exporting, so to speak our sanitary experience we may be of the greatest assistance to the Balkan peoples.

In speaking of these diseases we have shown how they have all been subject to the process of differentiation—i e from what was once regarded as merely "fever" we have differentiated out a number of diseases. Nor has the process come to an end, as we said just now, enteric fever shows signs of being further split up by our expert bacteriologists. This is all part of the evolutionary progress of homogeneity to heterogeneity, as Herbert Spencer defined it. Now the question arises with regard to disease, "Is this process of differentiation to go on for ever so that we become lost upon a limitless sea of particulars—is there to be no end to analysis? When we have isolated all the specific organisms of all acute diseases may there not be an underlying unity and their unifying substratum be found in the soil so that the ancients in speaking in a general way of "fever" without distinguishing between different kinds of fever may not turn out to be so far off the ultimate truth. Typhus doubtless is a striking instance of how attention to the soil may bring about the practical disappearance of a disease and this might be extended to other diseases. Continued analysis can hardly be the conclusion of the whole matter, we want a synthesis too which may enable us intellectually to comprehend the root-essentials of disease.

A CASE OF ACUTE DIABETES

WITH COMMENTS, ESPECIALLY IN REGARD TO ACIDOSIS

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THE following are the main facts of the case upon which I propose to comment

Notes of the Case by Mr C H COMERFORD —The patient, a boy aged 7 years was admitted on Jan 4th, 1916, and remained in hospital only one week when his parents took him home fearing he was about to die He was a gentle quiet child, very thin and wore a wan and apathetic expression, although his complexion was good and his eyes fairly bright His parents stated that he was naturally healthy, and had had no previous illness to speak of He was apparently quite well up to Christmas time, 1915 It was then noticed that he had to get up three or four times a night to pass urine There was marked thirst his appetite became inordinate, while his strength and energy languished He lay in bed almost motionless, took no interest in his surroundings, the upper eyelids drooped, and he slept a good deal Emaciation was very marked The skin was rather dark on the legs and its surface dry and rough, owing to minute horny accumulations at the hair follicles No complaint of itchiness no eruption on the skin, and no œdema of the ankles The tongue was very red and the lips were dry and cracked, while the teeth and gums were normal Bowels costive motions large No physical signs of disease in thorax or abdomen Cardiac sounds normal, pulse varied from 80 to 100, temperature subnormal No odour from the breath As a rule, the patient answered questions intelligently, but the nurse reported that his mind sometimes rambled The plantar reflex and the knee-jerk were completely abolished and the cremasteric reflex usually so active in a young boy was poorly marked His appetite was voracious and his thirst excessive and unceasing Micturition very frequent and he sometimes passed as much as six pints of urine in the 24 hours, on one day four pints in four hours Urine always odourless limpid, and brilliant showing greenish fluorescence There was never but the slightest trace of any sediment or deposit whatsoever No crystals visible under the microscope The specific gravity varied from 1030 to 1050 Reaction acid. Albuminuria was never found Sugar very abundant, up to 8 33 per cent (Dr Alfred Scott) By Roberts's differential density method I found from one sample 30 grs in 1 fl oz Specific rotation by polarimeter was 6 25 (Mr Fearon) corresponding to about 9 per cent sugar, abundant precipitate with phenyl hydrazine test The urea content was not determined No crystals of uric acid could be obtained by the addition of HCl either to the fresh or concentrated urine Mr Fearon failed to find evidence of the production of α-crotonic acid after distillation from sulphuric acid So rich was the urine in lime that it became opaque white after addition of acetic acid and ammonium oxalate, and there was considerable opacity of phosphates after addition of liq potassæ It yielded Gerhardt s reaction with ferric chloride and developed a fine purple with sodium nitro-prusside and liquor ammoniæ

The boy's eyes were not specially examined, but there was nothing obviously wrong and vision was good

Blood examination by Dr J T WIGHAM —Red cells 5 250 000 white cells 5200 hæmoglobin 80 per cent Blood smear appeared normal with due proportion of white cells Some blood was drawn off and ammonium oxalate added to prevent clotting The drawn blood separated into two strata The lower stratum was opaque, dark red The upper stratum was opalescent bright red Both in the fresh blood and in the upper layer of the drawn blood I observed under the microscope numerous spherical refractile globules of various sizes These stained well with Sudan III , so there was well marked lipæmia Dr Alfred Scott confirmed this observation using Scarlet R as a stain Blood normally contains from 0·2 to 0·3 per cent of fat

Diabetes mellitus is uncommon in young children and notoriously runs a more disastrous course than in adults and especially than cases in middle and elderly life As v Noorden puts it Infantile diabetes knows no mercy

Strictly speaking both glycosuria (or glucosuria) and albuminuria should be regarded not as altogether new events, but as exaggerations of a physiological condition For it is generally conceded that in healthy normal urine occur traces of (*a*) proteins and (*b*) sugar, or at least reducing carbohydrates (about 0 01 per cent) The glucose content of normal blood is about 0 05 to 0 15 per cent. In diabetic blood Gardner and Maclean found an average of 0 22 per cent Even after a prolonged fast sugar is never absent from the blood of the normal animal

In this communication I restrict my remarks to a few points, and will not attempt a comprehensive survey of a deadly and mysterious affection

The etymology of the term diabetes has been referred to the Greek word διαβήτης, a siphon The word also signifies a pair of compasses The latter is the more plausible idea, derived from the verb διαβαίνω to straddle connoting the necessity for frequent micturition. Mr Kennedy, F T C D , informs me that the prefix δια in Greek, corresponds to *dis*, in Latin, and signifies *separation*

Nearly 250 years have passed since the sweet taste of diabetic urine was first noticed in Europe by Dr Thomas Willis (1674) But according to the Ayur Veda (500 A D) the saccharine nature of diabetic urine had been known to Hindu physicians from remote times, and in the fifteenth century a disease was described characterised by ' honey urine ' In 1815 the French chemist Chevreul showed that diabetic sugar closely resembled grape sugar, and in 1848 Claude Bernard proclaimed his fundamental discovery that animals could manufacture sugar, and some years later he demonstrated the glycogenic function of the liver From that time on the study of diabetes was removed from empiricism and was firmly based upon physiology

Let us start with a definition of diabetes Osler s definition in the eighth edition of his ' Practice of Medicine," p 426, runs thus "A syndrome due to disturbance in the carbohydrate metabolism from various causes, in which sugar appears in the urine either as a slight and transient condition (glycosuria) or, as a more severe form, associated with thirst, polyuria, wasting, and imperfect oxidation of the fats (diabetes) " In his seventh edition a simpler and better definition was given I would formulate the definition thus "Diabetes mellitus is a disease characterised by increased glycohæmia, and by persistent excretion in the urine of sugars derived from faulty metabolism of imperfectly known and probably various kinds ' This definition is, I think, more concise and more exact, and leaves open for discussion the thesis that there may be several types of diabetes mellitus Moreover the definition as stated excludes (*a*) dietetic glycosuria, (*b*) transient glycosuria of corpulent or gouty people (sometimes noticeable only after a principal meal), (*c*) lactosuria of pregnancy, the puerperal state and in early infancy , (*d*) phloridzin glycosuria (here there is no increased glycæmia) , (*e*) adrenalin glycosuria , and (*f*) experimental pancreatic glycosuria—i.e., *complete* extirpation of the pancreas One fifty fifth part of the organ suffices to prevent the development of the symptoms which show that there is a profound relation between the pancreas and carbohydrate metabolism The glucose content of the blood may be raised to 0 8 per cent

The word *sugars* is advisedly used in the plural, for, as a matter of fact, it is well established that several sugars may be concerned in the pathology of diabetes They fall into three groups 1 Those with 6 atoms of carbon in the molecule—hexoses $C_6H_{12}O_6$ or monosaccharides glucose (dextrose) an aldose , levulose (fructose) a ketose Levulose may occur along with glucose and Seegen and others have recorded cases of diabetes where the urine contained only levulose and no grape sugar The use of starchy foods increased the amount of levulose (Laache *Harn Analyse* 1885) 2 Those with 12 atoms of carbon—bioses, or di saccharides ($C_{12}H_{22}O_{11}$) Here we meet with the two isomers Maltose (sometimes concurs with glucose), Lactose. Cane sugar (sucrose) never occurs pathologically 3 Those with 5 atoms of carbon—pentoses giving rise to pentosuria ($C_5H_{10}O_5$) It has been shown that, owing to differences in stereo-chemical configuration, only sugars with C_3, C_6, and C_9 atoms of carbon in the molecule are capable of direct fermentation by yeast, and of these only the C_6 group is of interest to the clinical physician Among the hexoses only the four naturally occurring sugars—viz , *d*-galactose *d* mannose *d* glucose, and *d* fructose—are directly fermentable This is a fact of extreme interest It follows therefore, that pentoses are not attacked by yeast. If co existent with hexoses—e.g , glucose, a pentose could be detected in urine *afte-*

fermentation with yeast, which destroys only the hexose After complete fermentation I tested in the foregoing case the urine for pentose by the orcin and phloroglucin tests with negative results It remains, of course, true that the predominant, and usually the only, sugar present in diabetic urine is glucose

Notwithstanding a vast expenditure of patient toil and chemical skill, the etiology and pathogeny of diabetes still remain obscure, and I will not spend time upon this intricate, albeit fascinating, inquiry It is not unlikely to prove true that the prime factors underlying the development of glycosuria are connected with disturbances in the balance of the internal secretions of the body Neither do I propose to touch upon the morbid anatomy of fatal cases of diabetes upon which we have little satisfactory or illuminating knowledge I propose to restrict my observations mainly to clinical symptoms and to the conditions observed in the urine The important subject of treatment must be entirely passed over

What are the obtrusive symptoms of a fully declared case of diabetes in a young subject? Are they not these? The patient is (*a*) thirsty (polydipsia), (*b*) leaky (polyuria), (*c*) emaciated (autophagia), (*d*) hungry (polyphagia—bulimia), (*e*) saccharine (glycosuria)

We next inquire what are the chief dangers of diabetes They fall under these heads (cf. v Noorden Diabetes Mellitus, 1906) —

DANGERS	RESULTS
(*a*) Carbohydrate deficiency	Lowered nutrition Carbohydrates are even more essential than fats as sources of body energy
(*b*) Degenerative changes in the nuclein substances of cells	Increased excretion of uric acid and xanthin bases
(*c*) Abnormal production of acids derived mainly from breakdown of fats which are the reserve fund of fuel for active cells	β-oxybutyric acid. Acetoacetic (diacetic) acid. Coma.
(*d*) Other products of abnormal metabolism	Excess of acetone Increased excretion of lime in the urine and also of phosphates
(*e*) Diminished resistance to intercurrent diseases Increased vulnerability of skin &c.	Tuberculosis Pneumonia. Various affections of the skin
(*f*) Chronic degenerative and inflammatory processes in tissues especially the vascular and nervous systems	Arterio-sclerosis Gangrene Neuralgia Neuritis Ocular affections Albuminuria.

Perhaps the most noteworthy fact in the pathology of diabetes is the wide sweep of changes drawn into the net of the poison or poisons which circulate in the blood and tissues No part of the body is exempt From the crown of the head to the tips of the toes there are proofs of ubiquitous mischief making Still it is plain that the most important and familiar clinical symptoms hinge upon perverted metabolism of two groups of foodstuffs—viz, the carbohydrates and the fats, upon which I will make some brief remarks

Carbohydrates —A due utilisation of carbohydrate is of supreme importance to the welfare of the body, and it is moreover, essential to the maintenance of nitrogen equilibrium, for carbohydrates are *sparers of protein* When the metabolism of carbohydrate is interfered with by complete removal of the pancreas there is a very great rise in the breakdown of body-protein, as is evidenced by the increased output of nitrogen So that if the tissues of an animal cannot get or utilise carbohydrate directly, they strive to get it willy nilly from protein, for the cells must and will have carbohydrate food at any price (Falta, Grote, and Stachelin, quoted by Cathcart, "The Physiology of Protein Metabolism," 1912)

As a practical side-issue in therapeutics I may point out that Shaffer and Coleman have clearly demonstrated that the "toxic" destruction of body protein in fevers may be largely prevented by securing the intake of carbohydrate food This is highly important in the rational treatment of enteric fever, in which disease I have long been convinced that immense mischief is done by the fetish of an exclusively milk diet The observations of botanical physiologists also support this contention For example, it has been demonstrated by Hansteen and others that the presence of carbohydrate is absolutely essential before protein synthesis can take place in plants

It is time now to inquire how stands our knowledge of the metabolism of carbohydrates and fats If a lump of starch sugar or fat respectively is thrown into the fire it is certain that the ultimate and final products of combustion of all three are the same—viz, CO_2 and H_2O Expressed in symbols we have —

(*a*) Starch $C_6H_{10}O_5+6O_2=6CO_2+5H_2O$

Or, physiologically stated, the respiratory quotient is 1, for $\frac{6CO_2}{6O_2}=1$

(*b*) Glucose $C_6H_{12}O_6+6O_2=6CO_2+6H_2O$

(*c*) Fat $+(O_2)n=xCO_2+yH_2O$

But a physiologist or a physician wants to know more than this He asks, What are the intermediate stages passed through, and whereabouts are breaks or modifications in the sequence of events to be expected or looked for?

The knowledge we possess as to the metabolism of carbohydrates is due mainly to the work of Embden and Dakin, and their associates It is summarised by Bayliss as follows ("Principles of General Physiology," 1915) —

$$\begin{tikzcd}
 & \textit{d}\text{ Glucose} \arrow[d, shift left] & \\
 & \text{Active glyceric aldehyde} \arrow[u, shift left] \arrow[d, shift left] \arrow[r, shift left] & \text{Glycerol} \arrow[l, shift left] \\
 & \text{Pyruvic aldehyde} \arrow[u, shift left] \arrow[r, shift left] & \textit{d}\text{ Alanine} \arrow[l, shift left] \\
 & \textit{d}\text{ Lactic acid} \arrow[d, shift left] & \\
 & \text{Pyruvic acid} \arrow[u, shift left] \arrow[d] & \\
\text{Acetoacetic acid} & \text{Acetaldehyde} \arrow[l] \arrow[r, shift left] \arrow[d] & \text{Alcohol} \arrow[l, shift left] \\
 & \text{(Acetic acid)} \arrow[d] & \\
 & \text{Carbon dioxide and water} &
\end{tikzcd}$$

Most of these reactions are reversible, as shown by the single headed arrows, and have been experimentally demonstrated as possible and probable steps The chemical symbolism of the above transformations is not very difficult to follow, but I will not dwell upon it now

Fats —From a clinical point of view, and especially as regards the prognosis of a case of diabetes, the metabolism of fats is even more interesting than the carbohydrate changes For mainly from fats are derived the group of bodies usually known by the unsatisfactory title of the "acetone bodies"—viz, oxybutyric acid, acetoacetic (diacetic) acid, and acetone Unfortunately, our knowledge of the stages of fat metabolism is extremely deficient and we are sorely in need of more light The chemical processes involved in the utilisation of fat are not sufficiently understood to enable one to draw up a table such as that given for carbohydrate

In diabetes it has been shown that fats may and do break down into less complex acids—e.g, oxybutyric and acetoacetic acids, together with acetone even when the diet is free from carbohydrate, and is formed exclusively of fat and protein In the normal organism an exclusively fatty diet, continued for some days has been found to give rise to large quantities of these partially oxidised products (Bayliss) In short, the output of the "acetone bodies" affords us practically the only clue to the faulty metabolism of fat (Lang, *Biochem Journ*, December, 1915)

Acidosis

Strictly speaking any condition in which there is an excessive production of acid radicals can be referred to as acidosis In rheumatic fever, for example the urine is strongly acid and often so persists in spite of the ingestion of considerable amounts of alkalies There is no proof that the acidosis of fevers gives rise to recognisable clinical symptoms and the amount of acids so formed is relatively trivial compared with their excretion in diabetes mellitus (Foster)

So far back as 1854 Sir Henry Marsh of Dublin referred to death in coma as a sequel of diabetes[1] The view that some of the worst results of diabetes, notably the liability to sudden and fatal coma are due to the accumulation of abnormal acids in the blood and tissues is commonly known as the "acidosis theory"

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[1] Dublin Quarterly Journal 1854

In severe cases of diabetes it is familiarly known that the urine frequently yields a deep claret-red colour with ferric chloride (Gerhardt, 1865) and this reaction is looked upon as a danger signal The red colour is ascribed to diacetic acid which is usually accompanied by its derivative, acetone, and it is commonly held and taught that the hidden precursor of these bodies is oxybutyric acid. Neither acetone nor oxybutyric acid give any colour reaction with ferric chloride as is stated in some text-books I use the word "hidden" to signify that there is no simple, or bed-side, test yet known for oxybutyric acid Its detection and estimation can be effected only by an expert chemist in a properly equipped laboratory This unlucky fact seriously hampers the clinical physician, and has led to many mistakes and unjustifiable assertions The physician must perforce content himself as a rule with the detection of diacetic acid and acetone, for which comparatively simple tests are available

Table giving Tests for Acetoacetic Acid, Acetone, and Creatinin (modified from the table given by Kennaway)

Reagent	Author	Colour	Given by—			
			Acetone	Acetoacetic acid	Creatinin.	Oxybutyric acid
Neutral ferric chloride	Gerhardt* (1865)	Clear dark red	0	+ 1 in 100 000 nearly	0	0 No colour-test known.
Sodium nitroprusside (recent solution 5 per cent) and liquor sodæ (v potassæ)	Legal (1883)	Red or purple	+	+	+ Weyl	—
Sodium nitroprusside and liquor ammoniæ	Le Nobel† (1884) and Rothera (1908)	Purple or violet.	+ 1 in 20 000	+ 1 in 400 000 (i e., 20 1)	0	—
Lugol's solution (aqueous I and KI) and acetic acid Chloroform	Riegler Lindemann (1901-5)	Iodine decolourised	0	+	0	—
Picric acid and liquor sodæ (potassæ)	Jaffé (1886)	Red	Yellow	Orange	+ 1 in 200 000 Johnson.	—

* To avoid confusion it should be ascertained that the patient is not taking drugs which would lead to misleading colour reactions with $FeCl_3$—e.g., salicin salol, salicylates aspirin phenol, or antipyrin.

† Archiv f. Exper Pathol vol xviii 1884 p 6

‡ Lecturer in Biochemistry Melbourne

Let us examine a statement made by Osler "The occurrence of acetone and diacetic acid in the urine both derivative products of β-oxybutyric acid is conclusive evidence that β oxybutyric acid is being produced in the body"[2] Or shall we follow Dixon Mann, who states that in the absence of diacetic acid it is useless to proceed further in the search for β-oxybutyric acid?[3]

Acetone is a normal constituent of the body fluids, and is stated to occur normally in urine to the extent of from 10 to 30 mgrm, or perhaps from 50 to 60 mgrm. daily derived by loss of CO_2, from diacetic acid The transformation may occur spontaneously in the urine—i.e. on this side of the blood Traces of acetoacetic acid also occur in normal urine—viz from 2 to 4 mgrm in 24 hours (Plimmer) On the other hand excess of acetone is found in a great number of most diverse diseases

In vitro Dakin has found that when butyric acid is neutralised and digested at 37° C (blood heat) with H_2O_2 it yields acetoacetic acid acetone and other products It was found impossible to detect β oxybutyric acid as an intermediate product of oxidation although this substance is *readily oxidised by* H_2O_2 to acetoacetic acid and acetone "It is commonly stated in the books that in the mildest forms of acetonuria acetone alone is excreted, if the condition becomes more marked, aceto-acid appears also, while in still more severe cases β-oxybutyric acid is added to the other two It appears now that there is no basis of fact for this statement which is due to the misinterpretation of qualitative tests and to defects in quantitative methods of estimation"[4]

The occurrence of acetone in the breath of diabetics can be accounted for by the difference in the blood circulation This is slow through the systemic vessels and lung capillaries through which the blood passes before it goes to the kidney Venous blood is more "acid" than arterial blood so that the conditions for the decomposition of acetoacetic acid are most favourable Acetone is very volatile, and if decomposition occurs during the passage of the blood through the lungs it would pass into the expired air (Plimmer)

A long overlooked fact is that acetoacetic acid is greatly predominant over acetone in urine, and it may be as high as 10 times greater (Kennaway) By dilution (20 times) of the urine with water the acetone reaction may be lost, while the acetoacetic acid, on account of its greater sensitiveness, still reacts to Rothera's test

It is not at present possible to decide with certainty the question whether acetoacetic acid is invariably accompanied in the urine by oxybutyric acid, but conversely, Stadelmann and others have observed the excretion of considerable amounts of oxybutyric acid in the absence of acetoacetic acid and acetone Acetoacetic acid decolourises Lugol's solution, acetone does not Colourless iodo-acetoacetic acid is formed[5] Care must be taken not to confound creatinin a normal constituent of urine, with acetone Both creatinin (Weyl) and acetone respond to Legal's test, acetone only to Rothera's test

Our present knowledge justifies, I think, the statement that while oxybutyric acid appears in urine usually in conjunction with diacetic acid and acetone yet either or both of the two latter bodies may be found apart from the former acid The chemical relations between them are —

$$(a)\ \underbrace{CH_3 \cdot CH(OH) \cdot CH_2 \cdot COOH}_{\beta\text{ oxybutyric acid.}} + O \underset{\text{reduction}}{\overset{\text{oxidation}}{\rightleftharpoons}} \underbrace{CH_3 \cdot CO - CH_2 \cdot COOH}_{\text{Acetoacetic acid}} \; [+ H_2O$$

This reaction is reversible and it is possible that the reverse change may be a source of oxybutyric acid in the body

$$(b)\ \underbrace{CH_3 \cdot CO - CH_2 \cdot COOH}_{\text{Acetoacetic acid}} \longrightarrow \underbrace{CH_3 \cdot CO - CH_3}_{\text{Acetone}} + CO_2$$

This reaction is irreversible

The tests usually relied upon for detecting acetone are really tests for acetoacetic acid. It is pure assumption to say that oxybutyric acid is never present in urines which do not give the nitroprusside reaction for acetone and acetoacetic acid The percentage amount of oxybutyric acid in urine is seldom higher than 0 5 to 1 per cent., although many grammes of it may be excreted in the urine in the course of 24 hours Magnus Levy states that he has isolated β-oxybutyric acid from the liver *spleen, muscles*, and blood[6]

Acetoacetic acid and its ester are tautomeric bodies and occur both in the keto and the enol form. The reaction with *ferric chloride is due to the enol* form, and, therefore if only the keto form of the acid were present the test would fail The red solution of ferric acetoacetate is decomposed by boiling and a brown precipitate of basic ferric acetate is formed Indeed Dakin and others have shown that the reversible transformation between oxybutyric and acetoacetic acids can be effected in the liver of by enzyme action, and that the trend of the reaction depends, among other conditions, upon the oxygen supply Much confusion has arisen from ignorance of the fact, first stated by Legal and established by Hurtley,[7] that (Le Nobel s) *Rothera s test* with sodium nitroprusside and ammonia is given *both* by acetone and acetoacetic acid, and is about 20 times as delicate in regard to the latter This difference in sensitiveness enables one to form a better idea of the *amount of acetoacetic* acid present (Kennaway) The test is wrongly fixed in the text-books as one *for acetone only* A urine containing 0 01 per cent acetoacetic acid and no acetone at all will fail to give the ferric chloride colour, while *it still reacts to Rothera's test* (Kennaway)

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[2] Practice of Medicine eighth edition p 418.

[3] Physiology and Pathology of the Urine second edition p 115

[4] Kennaway: Some Notes on the Excretion of Acetone Bodies Guy's Hospital Reports 1913 vol lxvii (A lucid and excellent paper)

[5] Cf Dr Derham The Signification of Acetone Bodies in the Urine THE LANCET July 31st 1915 p 227

[6] Archiv f Experim Pathol vol xliii p 158.

Furthermore, it can be laid down that the presence in the urine of acetone and oxybutyric acid is by no means characteristic of diabetes Oxybutyric acid has been detected in the urine in a number *of diverse conditions* Dr Foster[8] gives a striking experiment in proof of this Several years ago when fasting was in vogue as a cure for all ills a normal man abstained from all food for five days The urine was collected by Dr Foster during the fourth *day of the fast* The analysis gave —

Amount	*Total N*	*NH_3–N*	Acetone and diacetic acid	β oxybutyric acid
1410 c c	11 42 grm	1·09 grm (9 6 %)	0 475 grm	0 519 grm

The grade of acidosis represented here is *comparable to* that found in mild cases of acidosis with diabetes and was induced in this case purely by abstinence from food In truth, both *the fasting man and the acute diabetic are* self cannibals Any decrease in the alkali value (or relative increase of acidity) of the blood renders the blood less able to retain CO_2, and upon this follows a decrease in the CO_2 content of the blood The *composition of* "alveolar air" in the lungs can be measured by the method of Haldane and Priestley[9] Consequently it would appear that the most *scientific method of noting the degree of acidosis* in the body consists in determination of the alveolar CO_2 of the lungs and further observations are most desirable Normal blood is very near the neutral point in reaction

The *organism possesses two main lines of* defence against acidosis (*a*) The fixed basic radicals, potassium and sodium, (*b*) the neutralising capacities for bases of acetoacetic acid and β oxybutyric acid are practically identical for their molecular weights differ by less than 2 per cent (Kennaway) If these bases are not equal to the task an increased amount of ammonia is provided, some of the N excretion being switched *off the normal path of excretion* in the form of urea Hence it follows that increased excretion of ammonia in the urine is a rough index of the degree of acidosis, and this has been shown to be the case in diabetes

Foster[10] further points out that there are two sources of weakness in the current acidosis theory of diabetic coma Now one consideration that throws doubt upon the theory is this The acids *concerned occur*, it must be presumed, not as free acids, but as salts, in combination with Na, K ammonia Sodium is the predominant base The second weakness in the theory is that the blood *in cases of diabetic coma does not* invariably show preponderance of hydrogen ions The blood may *not* be less "alkaline" than normal

Of 11 cases examined by the electro-chemical method[11] Rolly found the hydrogen ions increased in only three It is impossible to determine the true *hydrogen ion concentration of the blood* in any other way[12] So that if further investigations substantiate Rolly's observations *some* changes in our conception of coma will be imperative There is no evidence that either oxybutyric acid or diacetic acid exercise any specific toxic action apart from their acidic character At present all we are entitled to say is that coma may come about by disturbance of the normal delicate adjustment of acid and basic radicals in the blood and tissues without postulating an excess of hydrogen ions in the blood

Summary

The foregoing inquiry appears to me to *justify* the following propositions —

1 There is no simple direct test for oxybutyric acid at *our disposal Its detection* can only be effected indirectly Barium oxybutyrate forms long needle shaped crystals (W Caldwell) which are doubly refracting

2 Neither oxybutyric acid nor acetone gives any colour reaction with *ferric chloride* Oxybutyric acid has no reactions in common with acetoacetic acid Hurtley s method for its quantitative determination by extraction with ether and estimation by titration and optical rotation is described in Plimmer (loc. cit, *p* 597)

3 For acetoacetic acid[13] three tests are available —(*a*) Gerhardt's Not very sensitive, hence much misapprehension *Failure of* the ferric chloride reaction does not entitle one to state that acetoacetic acid is completely absent (*b*) Rothera's test Reacts with both acetone and acetoacetic acid The latter is more sensitive to the test than acetone in the ratio 20 1 *One part of acetoacetic acid* in 400,000 gives the reaction in five minutes (*c*) Riegler's test Differentiates acetone and acetoacetic acid Method of *applying the test 10* c c of urine are acidified with five drops of 30 per cent acetic acid, and five drops of Lugol s iodine solution are added This mixture is shaken with 2 or 3 c c of chloroform No colour appears if aceto-*acetic acid be present (Plimmer)*

$$CH_3COCH_2COOH+I_2=CH_3CO\ CHI\ COOH+HI$$

Iodo-acetoacetic acid (colourless)

I have no experience of Arnold s test (para amino-acetophenone) and little of Hurtley s purple test (iso-nitroso-acetone)[14] They are more complicated and appear to be scarcely necessary Plimmer, however,[15] considers that Hurtley s reaction is very useful for gauging the amount of acetoacetic *acid in a solution or in urine*

4 Acetone does not respond either to Gerhardt s or Riegler's test Its reaction with Rothera s test is similar to that of acetoacetic acid, but *is less sensitive* The sensitiveness of Rothera s test is increased by the addition of a solid ammonium salt (sulphate or chloride) The best way of employing it is this Over a *layer* of the salt the *urine is floated, and then tested* as usual with nitroprusside and ammonia I can confirm the value of this modification I found that a specimen of diabetic urine preserved for nearly *four weeks still gave a distinct red* with $FeCl_3$ When diluted to 1 in 10 it scarcely reacted to the iron test It failed to respond to Lugol's test or to Le Nobel s (Rothera s) test *until layered over solid* $(NH_4)_2SO_4$, when a bright purple red zone developed It is stated in Neubauer Huppert[16] that acetoacetic acid disappears from urine at latest in 48 hours

5 The amount of acetoacetic acid in urine is usually considerably greater than that of acetone—viz, from 2 to 10 times as much (Plimmer) There are two sources of acetoacetic acid *in the urine (a) preformed*, (*b*) derived from intravesical decomposition of oxybutyric acid

6 There is no simple and reliable test at present known for the detection in *urine of small* amounts of acetone in association with acetoacetic acid[17] Many data published in connexion with acetonuria are vitiated by ignorance of this fact Scott-Wilson s method of detecting and esti*mating acetone* alone by conversion into a keto-mercury cyanide precipitate is described in Plimmer (p 592)

7 Rothera s test differentiates acetone from creatinin Creatinin *reacts* with *sodium* nitroprusside and either liquor potassæ (sodæ) or liquor ammoniæ Acetone reacts only with nitroprusside and liquor ammoniæ

8 The term "acetone bodies" (or "acetonuria") is not a happy one for it lays stress on the least important member of the triad Since acetone alone is not infrequently met with in urine perhaps it would be well *to* indicate that fact by *acetonuria* and to use the term *acetonuria* for the cases in which acetoacetic acid occurs

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[7] THE LANCET April 26th 1913 p 1160

[8] Diabetes Mellitus 1915 p 137

[9] This method is described and illustrated in Barcroft s valuable book the Respiratory Function of the Blood Cambridge 1914 p 209

[10] Loc cit

[11] Bayliss: *General Physiology* p 170

[12] Münch. Med Wochenschr 1912, vol lix p 1201

[13] *I am indebted to Professor W Caldwell for a specimen of ethyl* acetoacetate which answers admirably for checking the tests

[14] *Cf* Kennaway and Hurtley loc cit

[15] Pract Organic Chem p 1[illegible]

[16] Analyse des Harns I 2[illegible]

[17] Frommer claims that his test with solid caustic soda and salicyl aldehyde (purple-red) is *specific for acetone only* but according to Bohrisch aceto-acetic acid also responds (Neubauer Huppert Analyse des Harns 11te Aufl, 1910)

9 The theory of "acidosis" is still incomplete The modes of origin of "acetonuria" are complex, and are largely influenced by the amount of carbohydrate food assimilated

10 For the solution of such difficult problems the coöperation of clinical physicians and experts in organic chemistry is essential

Appendix

Examples of errors and inaccuracies culled from text books on medicine and on urinary analysis

1 Acetone gives a red colour with ferric chloride This error occurs in Fagge, "Practice of Medicine," edited by Pye-Smith, 1888, and also in Roberts's Treatise on Urinary and Renal Diseases," fourth edition 1885 Gerhardt's test for acetoacetic acid was described in 1865

2 Other substances (than acetoacetic acid)—e g, formic, carbolic and salicylic acids—give the *same* reaction in both fresh and previously boiled urine For *same* read *somewhat similar* No practised eye would confound the colours

3 Both oxybutyric acid and acetoacetic acid react similarly with the ferric chloride test This is not the case

4 "Fehling's solution is reduced by acetone, but this test should be applied to the distillate from the urine Acetone does not reduce the copper solution

5 Rothera's nitroprusside test is true for acetone only It is a much more sensitive test for acetoacetic acid

6 Many drugs produce temporary diabetes For *diabetes* read *glycosuria*

7 "Large quantities of water are required (by the patient) to keep the sugar in solution, and for its excretion in the urine" Glucose is soluble in its own weight of water The quantity of glucose in the blood of a severe case of diabetes is a fraction of 1 per cent

Dublin.

TREATMENT OF SEPTIC WOUNDS, WITH SPECIAL REFERENCE TO THE USE OF SALICYLIC ACID

NOTES BASED ON CASES AT THE MILITARY HOSPITAL, ENDELL STREET

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This paper is based upon observations made upon approximately 1000 cases of septic wounds treated in the wards and operating theatres of the Military Hospital Endell street, during the period of six months from May to October 1915 With the exception of a few cases from Gallipoli, all the men belonged to the British Expeditionary Force in France, and the majority were admitted to the hospital a few days after they were wounded.

While anaerobic infection was comparatively rare, septic infection was present to a varying degree in all the wounds In order to test the effect of treatment on the bacterial growth in the wounds numerous agar cultures were made The usual procedure has been to take cultures from the surface of the wounds before and immediately after the dressings each morning on successive days After overnight incubation at 37° C the relative number of colonies which developed on these cultures was noted When wounds are irrigated with reagents such as hydrogen peroxide weak solutions of perchloride of mercury carbolic or boric acid lotion there is often little difference to be noted in the number of colonies which develop on the cultures taken before and after the dressing or from day to day For this reason the efficiency of many antiseptics when applied to wounds has been questioned and it is evident that with reagents such as these the action of the lotion is often largely mechanical

Many of the cases on admission were treated with hypertonic saline solution either with continuous irrigation or with wet applications repeated two or three times a day A preliminary test was made to determine the extent of bacterial growth which occurs in a nutrient medium containing varying quantities of salt The organisms used were the staphylococcus pyogenes aureus and the bacillus coli communis, and cultures were grown in a series of broth tubes containing from 0 5 to 12 per cent sodium chloride Quantitative estimations were made of the number of living bacteria added to the culture tubes and the number present after varying periods of incubation With both micro-organisms proliferation occurred in 5 per cent salt broth—i.e, in the strength of saline usually employed for surgical purposes, this was, however, much less rapid than in the lower salt dilutions For example, in broth containing 5 per cent saline staphylococcus pyogenes aureus increased after 24 hours incubation at 37° C from 9 millions to 77 millions and after three days to 708 millions In broth containing 0 5 per cent. saline staphylococcus pyogenes aureus increased in 24 hours from 9 millions to 435 millions, and in three days to 1012 millions In the 7 per cent and 8 per cent salt media multiplication was still further delayed. In the 10 per cent and 12 per cent salt cultures no proliferation occurred, the cultures of staphylococcus pyogenes aureus were still alive after 24 hours, but those of bacillus coli communis were sterile It follows that when 5 per cent hypertonic saline is applied to a wound the inhibition of growth due to the salt alone can only be very slight

The majority of septic wounds heal rapidly if good drainage is provided and frequent dressings are applied The choice of lotion seems immaterial provided the one selected is non irritating and fresh infection is prevented The ultimate recovery of the patient depends upon physiological processes, and if preference is given to any of the above reagents for routine treatment it would be to that which reinforces the physiological processes in the tissues of the wounds—viz., hypertonic saline solution

In certain cases treatment with the so-called antiseptic lotions and hypertonic saline was not successful, and it was recognised that some improved method was required The plan adopted was to select a few wounds which did not yield to ordinary treatment These cases were made the object of a special investigation Two antiseptic reagents were tried (1) Eusol, as introduced by Professor Lorrain Smith and his collaborators[1], and (2) salicylic acid.

Treatment with eusol —In eusol we possess a valuable and cheap antiseptic In our experience the immediate effect of eusol is to sterilise the surface of the wound with which it comes in contact Cultures taken directly after irrigation remain sterile Numerous colonies, however will develop on cultures taken after an overnight interval, and there is often no reduction of bacterial growth from day to day The effect of the eusol is temporary only, because of the infection of the deep tissues This is well recognised and to meet the difficulty frequent application or continuous irrigation has been advised In some cases, however, it is not easy to arrange for continuous irrigation, and whatever contrivance is adopted there is a tendency for the lotion to flow through certain channels to its exit with the result that large areas of the wound do not get irrigated In spite of these disadvantages the clinical results obtained from eusol are very encouraging, and some cases have responded more rapidly to it than to other reagents The following case illustrates its use —

Case 1 —Private, aged 19 A large abscess of the calf of the leg was opened, the pus grew staphylococcus pyogenes aureus The cavity was irrigated with eusol and packed loosely with gauze soaked in eusol Irrigation and the dressing were repeated twice daily and each morning cultures were taken from the wound immediately before the irrigation A series of cultures were thus obtained From the first to the sixth day numerous colonies grew, and the cultures were indistinguishable from one another On the seventh day there was a marked reduction in the number of colonies On the eighth day only two or three colonies developed and the subsequent healing of the wound was rapid This series can be explained by the fact that free exudation from the abscess during the first six days diluted the eusol and washed it away from contact with the tissues It was only when the exudation ceased that the antiseptic remained in contact sufficiently long for its action to be evident after an overnight interval

In cases where eusol has not been a success the failure was apparently due to the fact that continuous treatment was impossible and the effect of the antiseptic was transitory Very little reagent is left in contact with the surface of a well-drained wound after irrigation with a watery solution Treatment with salicylic acid in various forms was therefore tried, in some cases with conspicuous success

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[1] Brit Med. Jour., July 24th 1915 The Lancet Feb 5th and 12th 1916

Treatment with salicylic acid —The examination of healing wounds shows that the presence of a certain number of bacteria need not be detrimental In many instances rapid healing occurs in spite of their presence Healing is usually not delayed unless exudation collects or the bacterial growth becomes sufficiently plentiful to liberate toxin or to produce ferments which digest the tissues A continuous inhibition of bacterial growth may be more effective than the action of a powerful but transitory reagent Salicylic acid is not such a powerful antiseptic as the hypochlorites, but it lends itself to continuous administration Its properties as an antiseptic are well known, and it has recently been recommended by Sir William Watson Cheyne and his collaborators for use as a powder mixed with boric acid for a first field dressing It is a light powder, feebly soluble in saline solution If applied to a wound in a crystalline form it does not dissolve sufficiently freely to cause necrosis Tested with a Ponder's film, salicylic acid is a positive chemiotactic agent It is also a lymphagogue

The method has been to keep a saturated solution of salicylic acid in alcohol and to add a little of this to the last funnelful of saline solution with which the wound is irrigated in a proportion of 2–3 drachms to a pint If applied in this way suspended in saline solution the crystals can be deposited over the surface and reach every part of the wound They pass into solution slowly and exert a continuous bactericidal action This method has the advantage that drainage tubes can be used and free exit for discharge maintained Dusting the wound with the dry powder has the disadvantage that the crystals float and do not reach deep crevices

If the crystalline deposit reaches all parts of the wound where exudation is being discharged an immediate diminution occurs in the number of living bacteria on the surface of the wound This decrease in the number of colonies occurs even when the cultures are made 24 hours after the last dressing, and this change in the bacterial flora is associated with a diminution in the amount of pus and usually with an improvement in the patient's general condition.

Salicylic acid may cause smarting which usually subsides quickly and in contact with blood it produces dark brown acid hæmatin, which has an unpleasant appearance These slight disadvantages do not, however, detract from its value as an antiseptic

A thick paste of salicylic acid in sterile saline (1 gm. acid, 9 c c saline) has been used for the cut surfaces of long bones in septic amputations In some cases the stumps have healed by first intention In others slight sepsis occurred in the muscular flaps In every case no infection of the bone marrow occurred

The following cases illustrate the use of salicylic acid as an antiseptic dressing —

CASE 2 —Private, aged 19 Admitted with septic wound of right knee joint The bullet had penetrated the joint and lodged in the outer condyle of the femur The patient had been in hospitals in France for some weeks previously, and was in a very septic condition The bullet had not been removed The knee joint was drained thoroughly and washed out twice daily with eusol His condition improved, and sepsis subsided except in the neighbourhood of the outer condyle of the femur in which the bullet was embedded At a second operation for removal of the bullet it was found that rarefactive changes had occurred leading to the formation of a considerable cavity in the bone, in the centre of which the shrapnel bullet lay The walls of the cavity were scraped and cleaned with dry gauze and the space then filled with thick salicylic paste and the external wound closed except for a small drainage tube which was left in for 24 hours Dry gauze dressing was applied externally For the next three weeks no irrigation was employed, the gauze dressings only being changed The temperature remained normal and six weeks after the operation an X ray examination failed to show any trace of the cavity in the bone He made an uninterrupted recovery

CASE 3 —Private aged 23 Was admitted with a compound fracture of the neck of the femur and necrosis of the separated head After weeks of sepsis excision of the head of the femur was undertaken For ten days following the operation the joint cavity, which was exceedingly septic was treated with eusol twice daily The pain and position of the wound prevented more frequent dressing As the sepsis did not improve eusol was discontinued and the cavity of the joint was filled with a mixture of salicylic acid and saline Immediate diminution in the discharge and number of bacteria took place, and the patient entered on a slow but steady convalescence

Salicylic gelatin —Treatment with salicylic acid in a crystalline form has only been adopted for acute cases and for a short time In the case of large wounds where the treatment was prolonged, it was thought desirable to diminish the quantity of the drug used A gelatin medium was therefore made containing salicylic acid 2–4 per cent, in the hope that the viscosity of the mass would help to retain the reagent in the wound This medium has been used for a large number of cases with considerable success

The gelatin is prepared in the following way 300 gm of gelatin are added to 600 c c of freshly made normal saline solution After melting in the steamer the medium is cleared with egg albumin and filtered It is divided into quantities of 100 c c and put into glass-stoppered bottles which are then sterilised at 100° C for three successive days Special care must be taken with sterilisation as gelatin is liable to contain tetanus spores When required for use a bottle is placed in warm water until the gelatin has melted and 2–4 gm of pure salicylic acid are added The acid must be added after sterilisation is complete and when the temperature is below 40° C If the medium is subjected to prolonged heat after the acid is added the viscosity is lost. In 2 per cent. solution the salicylic acid dissolves completely and combines with the gelatin In 4 per cent solution some of the crystals remain in suspension The fluid gelatin is poured into the crevices of the wound either through an irrigating funnel or directly from the bottle and requires to be repeated daily

In cases where the medium is retained in the wound it has often been noted that the bacterial flora will change when the treatment commences, pure cultures of streptococci being obtained, after an overnight interval, in wounds which previously grew a variety of organisms The following cases illustrate the value of this treatment

CASE 4 —Private, aged 32 Was admitted from a base hospital in France, where a flapless amputation had been performed through the lower third of the left thigh The wound was very septic Treatment with saline irrigation and later with strong solution of permanganate of potassium was employed for six weeks He lost ground Pus tracked up the muscles of the thigh Operations were performed for opening sinuses, &c He became emaciated and cachectic and finally it was decided that further surgical interference could not be undertaken At this stage treatment with salicylic acid gelatin was commenced and was applied twice daily Local reaction was immediate In a few days the pain ceased, the discharge diminished and the temperature gradually subsided Some days later an abscess was opened in the thigh, and after this he made an uninterrupted slow recovery

CASE 5 —Private, aged 24 Admitted from a base hospital in France, where a flapless amputation had been performed through the middle of the left thigh The bone was projecting and the wound was extremely septic After six weeks' treatment with hypertonic saline solution a secondary amputation was done and large drainage tubes inserted Three days later the flaps became inflamed and septic The trouble subsided rapidly under irrigation with peroxide of hydrogen and the application of salicylic gelatin introduced by means of an irrigating funnel

Conclusions —The conclusions to be drawn from these observations are —1 The bactericidal action of many of the so-called antiseptics when applied to septic wounds is negligible 2 The majority of wounds heal without the application of an antiseptic provided free drainage is supplied and dressings are changed frequently Hypertonic saline in so far as it aids physiological processes is preferable to many so called antiseptics 3 A strong antiseptic, such as eusol can sterilise the surface of a wound with which it comes in contact and if applied continuously gives excellent results 4 Salicylic acid applied in a suitable form can often save cases when other methods have failed It is particularly useful when dressings cannot be repeated at frequent intervals 5 In all cases where recovery is delayed and the effect of the reagents of doubtful value the treatment should be controlled by making repeated cultures from the wound surfaces

ON THE ILL-TREATMENT OF GENITAL PROLAPSE

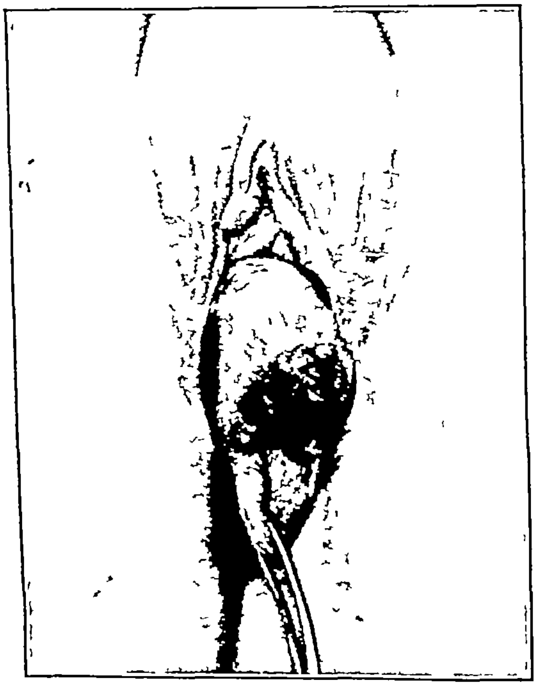
BY W E FOTHERGILL, M D EDIN ,

SURGEON ST MARY'S HOSPITALS FOR WOMEN ASSISTANT GYNÆCOLOGICAL SURGEON MANCHESTER ROYAL INFIRMARY ETC

THE two photographs (Figs 1 and 2), illustrating the recurrence of genital prolapse, were kindly taken by Mr R S Paterson in the Gynæcological Unit of the Manchester Royal Infirmary

Fig 1 is from a patient, aged 49, who has had several confinements and who reached the menopause three years ago Her cervix first appeared in the vulvar cleft some 20 years ago, and during the last five years she has had two abdominal operations for this condition without even temporary benefit The uterus is six inches long, its fundus is fixed to the abdominal wall and the cervix projects two inches beyond the vaginal outlet The vaginal roof is considerably inverted from above downwards There is no cystocele and no rectocele The case is an example of the use of ventrifixation instead of amputation of the cervix, with excision of the anterior vaginal fornix and perineal repair

FIG 1



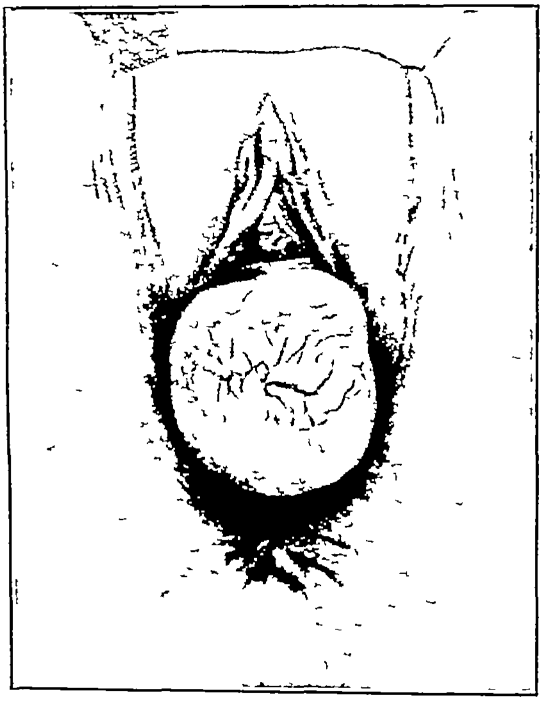
Result of ventrifixation for prolapse

Fig 2 is from a patient aged 53 who has had "falling of the womb" since her first confinement 33 years ago The condition was treated by vaginal hysterectomy, which gave temporary relief, but the trouble returned within two years The vagina is now completely everted and forms a sac which contains bladder and intestine Thus cystocele is present, but there is no rectocele the anterior rectal wall being in its normal position The scar of the vaginal hysterectomy, as seen in the illustration looks like a transverse os uteri The case exemplifies the removal of the uterus instead of the removal of the anterior vaginal wall and cervix with repair of the perineum

It is more pleasant to leave ill alone than to call attention to it , the worker prefers to bring forward improvements and to say nothing against the work of others and if something better is offered bad methods doubtless die out in time But they are slow to disappear, and a gentle graveward push is sometimes desirable

Manchester for some reason or other has been called ' the home of prolapse ' Certainly some 600 plastic vaginal operations are done every year at the St Mary's Hospitals, and from 60 to 70 at the Royal Infirmary Dealing with patients in these large numbers we are often able to observe the late results of various operations done elsewhere, not all free from risk and mainly German in origin, that are still being used for prolapse in this country Some of the patients have been subjected to sterilisation and "interposition" of the uterus between the bladder and the anterior vaginal wall Some have had the uterus removed not because it was diseased, but because it was loose Quite a number have had the fundus attached to the abdominal wall by ventrifixation Others have undergone abdominal operations which aim at using the round ligaments as uterine supports These patients still complain of cystocele, rectocele, or a combination of the two, of true prolapsus, or of protrusion of the cervix at the vulva with inversion of the vaginal roof A great many patients, moreover have worn horrible pessaries for years and have been told that there is no operation which will safely and certainly give them relief Thus what with pessaries on the one hand and futile operations on the other women with prolapse have a lot to put up with But we need not unduly "hymn their woe knowing, as well we know, that all can be set right" by plastic vaginal surgery (apologies to Gilbert)

FIG 2



Result of hysterectomy for prolapse

Having expressed these pious opinions, I should perhaps indicate the operations which I consider to be really suitable for the common forms of genital prolapse, which are four in number

1 *True Prolapsus*

The uterus, vagina and bladder are all loose The anterior vaginal wall appears first at the vulva and is everted from below upwards (cystocele), the cervix follows it and, in advanced cases, the posterior vaginal wall follows the cervix and so completes the ' *procidentia* ' Common in parous women seldom or never seen in virgins and nullipare

Treatment —Excise most of the anterior vaginal wall with the front half of the vaginal roof Remove the cervix also if it is unhealthy or if the uterus is more than three inches long The writer s method of combining anterior colporrhaphy with amputation of the cervix is useful[1] (Fig 3) Repair the perineum

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[1] Journal of Obstetrics and Gynæcology of the British Empire July 1914 and March 1915.

2 *Long Cervix*

The uterus is long and loose The cervix appears first at the vulva and the vaginal roof is inverted from above downwards round the elongated cervix There is no cystocele This is the form of prolapse seen in virgins and nulliparæ as well as in parous women (Fig 1)

Treatment —Excise the front half of the vaginal roof together with the cervix, leaving the uterus three inches long Repair the perineum

3 *Cystocele*

The anterior vaginal wall is everted from below upwards as in true prolapsus, but the uterus retains its normal position Seen in parous women with defective perineum, but not in virgins and nulliparæ

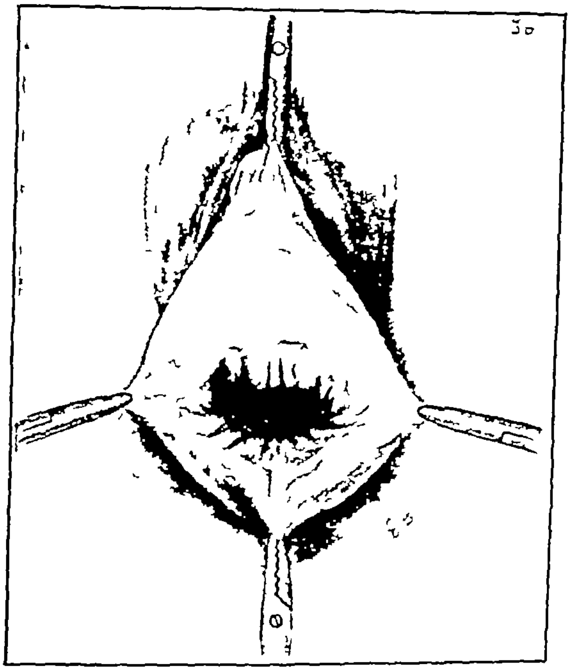
Treatment —Anterior colporrhaphy and perineal repair

4 *Rectocele*

The posterior vaginal wall is everted from below upwards with the anterior rectal wall adherent to it Seen in parous women with torn perineum, but not in virgins or nulliparæ

Treatment —Remove most of the posterior vaginal wall and repair the perineum The best method is Professor A Donald's *colpo-perineorrhaphy*, which is done from above downwards so as to combine the two operations [2]

FIG 3



Case of true prolapsus prepared for operation by the writer's method The incision will join the four pairs of forceps thus enclosing the anterior vaginal wall anterior fornix and cervix which are to be removed in one piece (Drawing from photograph by Dr A.W Mather)

It is hardly necessary to say that the four forms of prolapse occur in various combinations Thus rectocele may be seen alone with cystocele, with true prolapsus, or with long cervix and vaginal inversion.

Manchester

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[2] Ibid March 1903

CORNISH CHEESE —Mr J F Blackshaw, of the Board of Agriculture, recently gave an interesting address to the students at the Cornwall Cheese School *Lelant* He stated that cheese could be made anywhere in Cornwall if the maker had reasonable knowledge and took ordinary precautions with regard to the cleanliness of milk In each gallon of milk 1 lb to 1¼ lb of cheese was obtained by some of the students but it took about 2½ gallons of milk to make 1 lb of butter Consequently they would be doing more good to win the war by making cheese than by making butter About 80 000 cows and heifers in milk were kept in Cornwall and if 80 per cent of the milk in Devon and Cornwall was made into cheese it would go a long way towards supplying food for the British army

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A FACTOR IN THE TREATMENT OF HEAD INJURIES AND ALLIED CONDITIONS

BY T E HARWOOD, B A. OXON, M B, CH B EDIN,
RESIDENT OPHTHALMIC OFFICER, THE KING GEORGE HOSPITAL, S E.

CRILE has shown experimentally that a similar clinical condition with essentially similar pathological appearances in the brain may arise from four different causes (1) Any exhausting peripheral or central *stimulus*, (2) cerebral anæmia, (3) psychic causes, (4) poisons, organic and inorganic An example of the acute phase of this general condition is sometimes seen at or soon after a surgical operation, while the "neurasthenia" that follows a head injury or so-called shell shock represents a more chronic phase The neurasthenia that follows a head injury is probably the purest of all neurasthenic conditions, in that it may arise instantaneously in a perfectly healthy person from a single cause, though later on other factors may, and probably usually do, help to maintain and even exaggerate it The existence of a head injury would appear to be too apt to be regarded as *per se* explaining everything that follows and the sufferer is free from the stigma which too often attaches to the patient with shell shock, whereas apart from the actual injury and its direct consequences the two are in the same position but have reached it by two different routes

The living body may be compared to an electrical system and neurasthenia, in the widest sense of the term, to the effects on such a system of an inefficient battery Apart from the actual injury and its direct consequences, the treatment is concerned with what Sir James Goodhart calls "watts, ampères and volts of nervous energy" The battery must be maintained and strengthened and as little work put upon it as possible, while the patient's vicissitudes make an interesting study in the light of Crile's experiments

Asthenopia exists at first in almost all these cases, and the application to them of Weir Mitchell's dictum that neurasthenics do well unless they have asthenopia is that they do well unless they have persistent asthenopia While he is in bed the patient's eyes are one of the chief sources of peripheral stimulation, and almost the only organs of his body upon which any constant voluntary effort falls At first the mere stimulus of light may be intolerable to him and he lies as far as may be with his eyes shut If he opens them, blurred and ill fused images increase his headache, giddiness, and nausea Apart from an actual lesion of the eyes themselves or their nerve supply, the visual acuity even at this early stage depends mainly on the refractive error The reason why the images are blurred is chiefly because in his weakened state the neuro-muscular effort necessary to correct his refractive errors and give him clear images is too much for him, in other words his ocular compensation has broken down. We learn to use our eyes in babyhood, and do not realise the extent of the effort necessary to maintain this compensation More than this the child can suppress the image formed by one eye, and after a shock or debilitating illness not infrequently protects himself by ignoring the more blurred image and allowing the eye producing it to wander at its own sweet will This condition goes on until either he becomes strong enough to maintain the compensation of both eyes, or the task is rendered easier for him by glasses which give him two clear images The adult is in no such fortunate position With him binocular vision has usually become an ingrained habit, and he cannot suppress the image formed by either eye If his compensation breaks down he has to deal with two blurred images and blurred images are exceedingly difficult to fuse whereas clear images are probably more easily fused than not The result is that such a patient either has diplopia or is on the verge of it and there is a constant effort going on involving three groups of muscles—those concerned with the correction of the refractive error of each eye mainly, of course the ciliary muscle and those concerned with the maintenance of the parallelism of the visual axes It is doubtful whether a pure paresis of an external ocular muscle ever occurs without a previous paresis of the ciliary muscle and the treatment of a paralytic as well as of a concomitant squint lies in the correction of the refractive errors so as to produce two easily fusible images Nature is apt to treat conditions favouring diplopia by the development of a ptosis I was recently asked to report on a case of diplopia and recorded the glasses that gave perfect binocular vision, but was told that the information required was which muscle was affected

Suppose a patient who was in the habit of walking ten miles a day without conscious effort and probably with great benefit, suddenly got a hernia cerebri, no sane medical man would dream of allowing him to attempt his usual walk immediately after his accident Yet a not dissimilar thing is done habitually by allowing these patients to struggle with the difficulties of binocular vision If anyone doubts the effort involved in distant vision, he has only to go, say, to the Strand on a sunny summer day and study the different varieties of the frontal wrinkles of the passers by and the mechanism of their production He will then realise what this effort may mean to a patient whose nervous energy is at its lowest ebb If a patient definitely complains of constant diplopia he is almost sure to have one eye covered, but all these patients are on the verge of diplopia and most of them would benefit to a surprising extent by the covering of the eye which produces the more blurred image. This is only an imitation of nature's methods, and automatically cuts out two of the three groups of muscles involved, besides diminishing the sources of peripheral stimulation. Many can see clearly in the distance with one eye when they cannot with two, many can read with one eye but not with two, and there is much relief both to headache and giddiness, care must be taken to prevent too much reading It is essential to find out which is the right eye to cover, and it should be covered with an interval of a few hours every four or five days until the patient is strong enough to deal with both eyes When a patient is wearing a head bandage, it should be made to include the more unsound eye, in other cases a comfortable shade should be used This method is applicable not only to head injuries but to other acute forms of neurasthenia It has been said that it will be generations before the value of Weir Mitchell's discoveries in this direction is fully recognised

For the observation of the frequency of diplopia in these cases at one period or another I am indebted to Deputy-Surgeon General H W G Doyne R N

A NOTE ON SPINAL ANÆSTHESIA[1]

BY S B GADGIL, F R C S ENG,

LIEUTENANT I.M S

IT is very surprising that notwithstanding the fact that spinal anæsthesia was introduced into England by the able advocacy of the late Lieutenant-Colonel A. E Barker for the last ten years it has been adopted only by a minority of surgeons in civil practice and by an even lesser number in military practice I have inquired from different medical men on the subject and I would like to offer some explanation as to why people feel shy about using this kind of anæsthesia. I propose also to make a few suggestions and invite discussion from those who are experienced in its use My experience is based on 500 cases, some treated abroad but most of them in London

I may summarise the reasons for non success in the use of the method of anæsthesia in the following way —

1 *Difficulty in entering the spinal canal* —This may be due either to nervousness on the part of operators or on that of their patients whose confidence they have failed to win and who consequently do not keep steady at the time they feel the prick of the needle

2. *The position in which the patient is placed at the time of introduction of the needle* —There are two positions in which the needle may be introduced. In the first the patient is required to bend forward while sitting at the end of a table, in the second he lies on one side always of course in fully bent position I have found it more difficult to introduce the needle into the spinal canal when the patient lies in this second position, the first is in my opinion the more convenient

3 *Position after the anæsthetic is introduced* —I think that after the injection of the drug the patient is kept with his back propped up too high from the horizontal.

4 *Amount of drug injected* —The amount of stovaine injected is, in my opinion, generally not sufficient

5 *The fear of collapse* —This, I think, unnerves the surgeon because he is aware that the patient is watching his actions with anxiety

My suggestions to counteract these defects are —

1. Do not be disappointed if you do not get into the spinal canal at the first attempt, difficulty in this matter is more common than is generally acknowledged

2 For the novice the position of getting the patient to sit at the end of the table and to stoop over is better than the one of lying down on the side, also in the fully bent position, as stated before (*a*) Always see that the lumbar spines are quite prominent before introducing the needle. (*b*) Puncture at the upper margin of any of the lumbar vertebræ from the second to the fourth (*c*) Keep the point of the needle absolutely in the middle line and the whole needle perpendicular to the skin (*d*) Do not follow the text-book advice, which is to insert the needle a little away from the middle line a little upwards and inwards In practice I have found that the canal is often missed in following this text-book advice

3 I always give a full ampoule of the stovaine and glucose solution, which is equivalent to a grain of stovaine, in all adult cases I have never had any bad effects which I could attribute to a big dose This full dose does away with the necessity of shaking gently the patient by making him sit and lie down a dozen times for diffusion of the drug, as I have seen done

4 In some cases when operating only on one side of the body I have found it very useful to introduce the drug when the patient is lying on the side to be operated upon, even when the needle has been introduced while the patient is sitting at the end of the table in a stooping position. I will make this statement more explicit Say I want to operate on the left knee I make the patient sit at the end of the table in a stooping position, I introduce the needle into the canal, and when the needle is in, as shown by the escape of the cerebro-spinal fluid, I gently lay the patient on his left side before I introduce the drug He lies in that position for a minute or two and is then ready for the operation, so that I put him on his back comfortably before starting

5 I never use this anæsthetic for any operation above the level of the umbilicus It takes about ten minutes for anæsthesia to spread from the trochanter to the umbilicus, while for rectal operations the effect is immediate

6 It is unnecessary to test the sensation before starting operation, though protopathic sensibility is lost, epicritic sensation remains for a longer time, and the patient says he feels pain while he is only feeling a light touch

7 Never introduce the drug unless the cerebro-spinal fluid is seen escaping freely

8 When operating on abdominal cases or on any very nervous individual I give a hypodermic injection of morphine gr $\frac{1}{4}$ atropine gr 1/100, and hyoscine 1/100, three-quarters of an hour before operation The patient generally remains asleep during the whole course of the operation.

9 Do not be nervous about the position of the head Keep the back rest about 30° from the horizontal This height is quite sufficient I have seen patients propped up to about 45° or more from the horizontal The anæsthetic does not diffuse rapidly and the blame for non success of this anæsthetic is attributed to the unreliability of the drug

10 When a patient shows signs of collapse, which are paleness nausea, vomiting, and cold perspiration, do not be perturbed—leave him as he is for the moment, and (1) give him at once liquor strychninæ min v hypodermically, (2) raise both legs up in the air, trying to meet the head, as used to be done in order to stretch the sciatic nerves in the old fashioned way without an operation, and (3) put with the forearms great pressure over the abdomen for five minutes or more. Generally the operation may then be continued within ten minutes

11 Headache is the only after result I have met I tell the patients that they would be quite well next day and I give gr x. of aspirin as a placebo

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[1] A paper read at a clinical meeting held at a general hospital on Feb. 10th 1916

I think a knowledge of the above points would conduce to more frequent use of this most useful anæsthetic It diminishes the number of assistants absolutely essential for any operation on the lower extremity and it relieves the anxiety of those who have a great dread of either chloroform or ether

NOTE ON THE FUNCTION OF THE MEDULLARY NERVE SHEATH

BY C E H MILNER, M R C S, L R C P LOND,
CAPTAIN, R A M C (T)

APART from its action as a protective buffer against injury to the nerve fibres there has always existed some doubt as to the function of the medullary nerve sheath, and physiologists have from time to time held different views The following facts, therefore which have been observed recently in cases of nerve trauma due to gunshot wound and one to other causes, appear to me to throw definite light on a question which has hitherto been the subject of some controversy I quote the following instances as being of clinical significance

1 *Loss of voluntary physiological excitability in a muscle without loss of faradic reaction* —During the removal of a shrapnel bullet from the posterior triangle of the neck the spinal accessory nerve was accidentally divided The cut ends were sutured The trapezius muscle on that side was immediately paralysed But its faradic reaction, which was recorded daily, was found to persist until the eighth day

2 *Return of voluntary physiological excitability without return of faradic reaction* —(*a*) Two men had received injuries to both the median and ulnar nerves of the left arm which were found at operation to be so severe that in both cases the nerves were divided cleanly above and below the site of injury, and sutured end to end After ten weeks of daily massage and electrical treatment some return of movement was observed in the short muscles of the thumb But there was no return of faradic reaction (*b*) The same is the case with a small boy who accidentally cut across his ulnar nerve with a penknife 18 months ago The nerve was sutured end to end Twelve months after operation all the interossei and adductor pollicis were working well, but failed to respond to the faradic current Nor do they react to faradism at the present date, 18 months after the original injury and six months after the return of good movement (*c*) A similar condition of non return of faradic reaction is to be seen in two cases of severe injury to the brachial plexus Both were due to violent dislocation of the shoulder joint Neither was operated upon, but in both cases extensive paralyses of the arm and hand have recovered in about a year without return of faradic reaction

The facts recorded above have led me to believe that the medullary sheath acts as a conductor for the *electric* current, while its existence is unnecessary for the transmission of *physiological* impulses, which are dependent solely upon the continuity of the axis cylinders In the case quoted of division of the spinal accessory nerve, it was noted that the physiological impulse failed from the outset to reach its destination whereas the electrical impulse persisted until the eighth day

Now Marchi s fluid contains osmic acid, which stains fat black and is used to stain sections of nerves in order to demonstrate the degeneration of the medullary sheath—that is to say its replacement by fat But this method is found to be unsatisfactory until about the eighth day after section of the nerve has been performed This period of time coincides exactly with that which elapsed in my case before the trapezius failed to respond to faradism It is fair, therefore to assume that division of the axis cylinders (even if immediately brought into rough re-apposition) is sufficient to interrupt the passage of the physiological impulse but that the electrical impulse is interrupted only by complete degeneration of the medullary sheath

The only way to prove beyond doubt the accuracy of my contention would be to operate again upon the two cases of return after nerve suture of muscular action without return of faradic excitability and upon the cases of ulnar and brachial plexus injury and to find microscopically the axis cylinders regenerated at a more rapid rate than the medullary sheath—i.e the process in the latter case not yet complete

In the absence of such possibility I am conscious of the incompleteness of my proofs But the facts instanced above seem to be of real value in that they are the results of clinical observation

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

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RUPTURE OF BLADDER DUE TO RETROVERTED GRAVID UTERUS

BY JOSEPH E G CALVERLEY, M D LOND, C M G

IT is on account of the rarity of spontaneous rupture of a healthy bladder from pressure caused by a retroverted gravid uterus that I record this case

The patient, aged 32 years, had had four children, the last one being born three and a half years ago The menstrual periods were regular till August 29th, 1915 when they only lasted one day For a little time there had been complaint of dragging pain and difficulty in micturition, and during the last fortnight some swelling of the abdomen had been noticed At this time the patient was able to do her ordinary household work, but for the last ten days had had to keep to her bed on account of the pain and swelling of the abdomen and difficulty in passing urine Some days she could micturate and at other times not, and for the last three days had not passed any urine at all On Oct 11th at 5 A M she was seized with excruciating pain in the abdomen whilst turning over in bed, and felt that "something had twisted inside" She had slept well that night with the help of morphia pills for relief of the pain The medical man, under whose care she had been, sent the patient into the Royal Victoria Hospital, Folkestone, with a diagnosis of "twisted ovarian cyst"

An operation was performed seven hours after the onset of the acute abdominal pains The abdomen contained pints of slightly blood stained fluid The uterus, the size of a cocoa nut, was firmly impacted in the pelvic cavity below the pelvic brim The bladder had a rent, measuring 2½ inches situated to the left side of the fundus and running in a horizontal direction This tear was carefully sutured, and the abdominal wound closed except for a large drainage-tube The patient made an uninterrupted recovery, and was allowed to pass urine naturally after the fourth day On March 25th, 1916, she gave birth to a male child

Folkestone

ANÆSTHETISATION OF TWO CASES OF PATENT DUCTUS ARTERIOSUS

BY HUGH R PHILLIPS, M D EDIN,
SENIOR ANÆSTHETIST ITALIAN HOSPITAL ANÆSTHETIST KING GEORGE HOSPITAL, ENDSLEIGH PALACE HOSPITAL FOR OFFICERS ETC.

THE two following cases seem to me to be worth recording since I can find no account of any such case from the point of view of the anæsthetist

CASE 1 —The patient, a young woman aged 20 was a patient of Dr H J F Simson, and had been seen and treated by Sir James Mackenzie, to both of these gentlemen I am indebted for permission to publish this account The occasion was that of a first confinement and the patient had gone to the full time When I arrived the os was fully dilated, pains were frequent and strong the pulse was 110 of good volume, and the colour of the face and fingers was pink I at once commenced the administration by giving a mixture of warmed oxygen passed through chloroform Anæsthesia was sufficiently deep in eight minutes to permit of forceps being applied At this time the pulse became smaller in volume, so a few drops of ether were sprinkled on the mask Immediately the face became dusky and the breathing embarrassed Oxygen was administered by itself for a few minutes till the colour became normal and then chloroform was cautiously added The patient remained comfortable under its influence until the completion of the operation The length of anæsthesia was 23 minutes There was no vomiting or after feeling of nausea The amount of anæsthetic used was very small—namely 6 drachms of chloroform and less than ½ drachm of ether

CASE 2 —The second patient I have anæsthetised on five different occasions each time for the removal of teeth He is now aged 44 When only a few months old he was seen by Sir William Jenner who diagnosed the condition and gave it as his opinion that he would not live long The patient was seen recently by Dr Alexander Morison to confirm the condition and he considers that the chief lesion is probably a defect of the interventricular septum with patency of the ductus arteriosus The complexion is always inclined to be dusky and the fingers are clubbed and blue

In 1905 Mr Leonard Matheson removed three teeth Gas with a mixture of air was administered in the usual way, after a few breaths the face became almost black and the breathing embarrassed The teeth being loose were easily extracted Recovery was rapid, and after remaining in the dentist's chair for a few minutes he was able to return home There were no bad after-effects The anæsthesia was very short In 1907 the patient had gas administered again during my absence from town, and apparently it was quite satisfactory at the time, but for some days after he felt ill and unable to do anything

In 1914 Mr Edward Harrison saw the patient, and as there was so much pyorrhœa he considered it advisable to remove all the remaining teeth. On the first occasion three were removed at Mr Harrison's surgery I administered gas and oxygen with Hewitt's apparatus The anæsthesia was short and accompanied by no alarming symptoms at the time but in the evening the patient collapsed and became quite ill In consequence of this we thought it would be better that he should go into a nursing home on any future occasion On two occasions at intervals of five days gas and oxygen were given after a preliminary injection of morphine and atropine, the resulting anæsthesia was very short, but there were no disturbing symptoms at the time and no bad after-effects Four months later there were still 12 teeth left, and the patient was anxious to have them all out at once A preliminary injection of morphine and atropine was given, and anæsthesia was induced by passing warmed oxygen through chloroform The colour remained pink and the breathing was regular and quiet In nine minutes the operation was commenced After a few teeth had been extracted the pulse became weak so I passed the oxygen through ether Immediately the colour became dusky and the breathing ceased. Ether was switched off and the oxygen given by itself and in a few seconds breathing was resumed and the colour returned to pink The operation was finished under oxygen and chloroform In a few hours the patient was perfectly well and seemed better than after any of the previous anæsthetics

The chief point of interest in both these cases is the immediate effect of the slightest exhibition of ether Both patients took the mixture of chloroform and oxygen perfectly well, but the substitution of ether at once caused embarrassment of the heart and breathing

Dawson place W

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF DERMATOLOGY

Exhibition of Cases

A MEETING of this section was held on May 18th, Dr J H STOWERS the President, being in the chair

A warm tribute was paid by Sir MALCOLM MORRIS to the work of the late Dr W Allan Jamieson of Edinburgh, while the loss to dermatology which his recent decease had caused was deplored

The following cases were shown —

Dr GRAHAM LITTLE 1 Parakeratosis Variegata in a girl aged 18 The disease commenced in 1908 as a sudden and acute eruption on the thighs spreading within two years to the whole of the body The patient was also subject to epileptic fits So far treatment had been unavailing —Both Sir MALCOLM MORRIS and Dr J J PRINGLE were of the opinion that these cases never get well but the PRESIDENT drew attention to the fact that X rays removed the itching in those cases in which pruritus was pronounced ——2 Lichen Scrofulosorum with Scrofulodermia in a girl aged 13 The patient had been treated with tuberculin for four years for a patch of scrofulodermia on the chin The lichen scrofulosorum had appeared only recently and had become considerably fainter since the tuberculin had been stopped —Dr H G ADAMSON and Dr J H SEQUEIRA both thought that the lichen scrofulosorum was due to the tuberculin but as Dr S F DORE pointed out it would be extremely difficult to prove that it was not a toxic manifestation arising from the scrofulodermia since lichen scrofulosorum was frequently seen before the advent of tuberculin

Dr PRINGLE 1 Mycosis Fungoides The patient was a woman aged 43 and the disease was of six years duration The eruption began on the right thigh simulating parapsoriasis and in two or three years similar patches affected other parts of the body On the patches over the scapular regions swellings with ulceration appeared which improved under X rays The spleen was not enlarged and there was no lymphadenitis ascertainable. The blood count showed some lymphocytosis and eosinophilia The Wassermann reaction was positive on two occasions, but there was no history or evidence of syphilis In view of the blood test the exhibitor intended to treat the case with galyl —Dr SEQUEIRA stated that he had noticed cases of mycosis fungoides in which syphilis could reasonably be excluded, the blood of which had given a positive Wassermann reaction ——2 Xerodermia Pigmentosa This case had been shown at a previous meeting (March, 1914) At that time the patient had a tumour on the left cheek, which had since disappeared under radium Radium had also produced a very beneficial effect upon some of the other nodular lesions

Dr DUDLEY CORBETT 1. A Case for Diagnosis The patient was a man who had recently had scrotum and inguinal lymphatic glands removed for carcinoma One month after the operation a raised inflammatory eruption appeared first on one leg and then on the other The eruption on the first leg affected had disappeared, leaving venous telangiectases in its place Most of the members considered that the condition was an inflammatory lymphangitis ——2 Asphyxia Reticularis (Unna) The lesion commenced as a livedo a year ago on the left leg and three months later on the right leg On the congested areas vesicles appeared, which in time gave place to lichen planus like papules —Some of the members thought it was a form of lichen planus, but the consensus of opinion was that the case was one of erythema ab igne

Dr G PERNET 1 Urticaria Pigmentosa The patient was a boy aged 7 months, and the chief point of interest in the case was that the lesions were present at birth 2 A case treated by intramine A young woman had gummata on both legs, which had healed under two injections of intramine No oxidising agent had been used afterwards

SECTION OF OTOLOGY

Epidiascope Demonstration —Exhibition of Cases

AN ordinary meeting of this section was held on May 19th, Dr ALBERT GRAY (Glasgow), the President, being in the chair

Dr J S FRASER gave an epidiascope demonstration of a remarkable collection of slides illustrative of the following three conditions (1) Congenital Syphilitic Disease of the Ear, (2) Secondary Otosclerosis (Ostitis Vasculosa) associated with chronic middle ear suppuration, and (3) Para, Peri, and Endo-labyrinthitis He contended that there was an analogy between the changes seen in labyrinthitis, paralabyrinthitis, and the changes seen in the ear in the case of congenital syphilis shown These changes seemed to originate from the middle ear His idea of the course of events in the case of syphilitic disease of the ear, in its late form, was the occurrence of otitis media. If the case did not run a favourable course the otitis was acute and the infection spread into the bone of the labyrinth and capsule, and in that way the inner ear was affected Sudden apoplectiform deafness could be accounted for by a sudden nipping of the ductus endolymphaticus and a raising of the tension His specimen showed that the condition present was not a neuritis or meningitis in the internal *meatus*, but a process spreading from the middle ear just as in chronic suppurative otitis media and in some cases of otosclerosis —The PRESIDENT, discussing the contribution said that some years ago he arrived clinically at the view that there was far more frequently an association between suppurative middle ear disease and otosclerosis than was commonly supposed, but he had never been able to demonstrate it pathologically as Dr Fraser had now done—he believed for the first time One frequently saw great deafness in young people in whom all the symptoms pointed to otosclerosis but in which the lesion was old bilateral dry middle ear deafness —Dr P WATSON WILLIAMS said he had always been attracted by the suggestion now elaborated by Dr Fraser as to otosclerosis being due at least in some cases, to toxic absorption or to some inflammatory process In some of these cases he had found a chronic or latent infection of the posterior ethmoidal cells or the sphenoidal sinus, which was evident only on careful investigation —Dr DUNDAS GRANT thought the question was a still larger one than that of otosclerosis depending upon the absorption of toxins There might be a diversity of causes At one time he thought it was associated with chronic osteo-arthritis He asked whether the softening of bone in this condition was great enough to permit of it yielding to the pressure of the Politzer bag applied at the external meatus —Dr DAN MCKENZIE said it had often seemed to him that the secretory changes occurring in otosclerosis might not be due so much to a common origin with the otosclerotic changes in the labyrinth capsule, as a secondary effect of abolition of function He believed secretory changes of that description did occur reflexly at times

Mr SYDNEY SCOTT showed a case of Latent Tuberculosis of the Lateral Sinus secondary to chronic suppurating otitis media, with a histological specimen of the sinus contents At 5 years of age the child was operated upon by a simple procedure for the removal of a mastoid abscess A sinus persisted, she had attacks of headache, and the tympanic membrane was obscured by pale granulations deep in the meatus Schwartz's operation resulted in a cure, as there was now no sign of disease a year after the operation

Mr E D D DAVIS described a fatal case of Double Acute Otitis Media complicated by ulcerative endocarditis The patient, a youth aged 16, had discharge from both ears following upon influenza There were numerous indications in the mastoid and body generally of a septic condition, and operation failed to save him

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF STATE MEDICINE

Cerebro spinal Fever in a Military Camp —London Bills of Mortality

A MEETING of this section was held on April 14th, Dr W A WINTER, the President, being in the chair

Dr G E NESBITT read a note on the distribution of cerebro spinal fever in a military camp The camp consisted of newly constructed huts and was designed to accommodate about 3000 men A careful examination of the data did not suggest direct infection as a causation factor

Dr T P C KIRKPATRICK exhibited two old London Bills of Mortality for the years 1685 and 1686

SECTION OF PATHOLOGY

China Green for Isolation of Typhoid Bacilli from the Fæces —Exhibition of Specimens

A MEETING of this section was held on March 31st, Professor E J MCWEENEY, the President, being in the chair

The PRESIDENT made some remarks on the Value of China Green for the Isolation of Typhoid Bacilli from the Fæces He had not yet succeeded in obtaining perfectly satisfactory results either in plates or as an enrichment method but he thought the outlook sufficiently favourable to justify him in continuing his work on the subject

Dr R J ROWLETTE and Dr W BOXWELL showed the Abdominal Viscera from a woman aged 62 She had noticed her abdomen enlarging for three months, but had no pain or wasting, for three weeks prior to her death she had vomiting and diarrhœa The examination showed the omentum to be completely infiltrated by a tumour mass, which also involved the mesentery and the peritoneum covering the right half of the diaphragm, there were small implantations elsewhere on the parietal peritoneum No primary seat of carcinoma could be discovered. Microscopically the tumour was found to consist of large flat cells, varying greatly in appearance Some appeared to be actively phagocytic, in many the nucleus was in process of division, no mitotic figures were seen There were many giant cells similar to those seen in giant-cell sarcoma, and also many multinuclear protoplasmic masses resembling syncytial masses Cell-inclusions were present The stroma was scanty, lymph spaces were well marked Much of the tissue of the tumour was necrotic The exhibitors regarded the tumour as an endothelioma originating in the peritoneum

Dr J H POLLOCK showed amongst others a specimen of Congenital Syphilitic Cirrhosis obtained from an infant 11 months old, who succumbed to an apparently primary hepatitis

Dr G E NESBITT showed the kidneys and portion of small intestine from a fatal case of acute abdominal disease in a girl with puzzling clinical symptoms

LONDON DERMATOLOGICAL SOCIETY —A meeting of this society was held on May 16th, Dr J L Bunch, the President being in the chair —Mr Christopher Kempster brought forward the following case for consultation A soldier, aged 36, first came out in a flush rash while in South Africa 16 years ago this was accompanied with sickness and vomiting lasting from three to four hours, and causing prostration He was better in three or four days, and then started peeling around the ears and neck The peeling finally became general, scales coming away in large flakes He had a second attack six years later, and since then a yearly attack, generally in the spring or autumn The present attack began on May 5th, and on admission to the hospital he was peeling, his temperature was then 99 6° F, and had been normal since He had been treated for many diseases, such as, amongst them, scarlet fever, nettle rash, German measles, and quinine rash —In the discussion which followed Dr Morgan Dockrell suggested that the case was one of erythema scarlatiniforme —Cases were shown by the President, Dr Morgan Dockrell, Captain W Griffith, Dr W Knowsley Sibley, and Captain C H Mills —Colonel Harrison, R A M C, referred to the treatment of syphilis with intramine and ferrivine and said that in his experience intramine was only a source of torture to the patient and even if followed by injections of ferrivine the results were absolutely nil —The President then read a paper entitled "Dermatitis due to Hair Dyes," and an interesting discussion followed

Reviews and Notices of Books.

Diseases of the Nose and Throat, comprising Affections of the Trachea and Œsophagus

By Sir STCLAIR THOMSON M D Lond, F R C P Lond Second edition With 22 plates and 337 figures in the text London Cassell and Co, Limited 1916 Pp 858 Price 25s net

ALTHOUGH only four years have elapsed since we noticed in these columns Sir StClair Thomson's text-book on "Diseases of the Nose and Throat," a new edition has been called for During that short time there has been a steady progress of laryngology and rhinology Amongst the features of the new edition will be found a description of suspension laryngoscopy—the latest development in the methods of direct inspection of the larynx A concise description has been given of intranasal dacryocystostomy an operation which promises cure or relief in many troublesome conditions of the lacrymal apparatus The nasal route to pituitary tumours is also described The technique of nerve blocking to obtain laryngeal anæsthesia the intranasal operation to secure drainage of the frontal sinus and aspergillosis of the accessory sinuses have all received more adequate attention The chapter on removal of the tonsils has been entirely rewritten The *pro et contra* of the tonsillotomy of former days and the tonsillectomy of to-day will be found tabulated and the modern methods of removal as fully described as is possible in a text-book

Although the book has been rigorously revised from beginning to end and expanded by some 70 pages and additional illustrations yet the original character of the work has not been altered nor has the high opinion we expressed when reviewing[1] the first edition The book is well illustrated and fully indexed To the senior student it will be a reliable guide and to the busy practitioner a complete and ready source of reference

A Text Book of Operative Dentistry

By Various Authors Edited by C N JOHNSON Third edition revised and enlarged With 805 Illustrations London William Heinemann (Rebman Limited) 1916 Pp 891 Price 25s net.

WE have previously had occasion to comment favourably upon this well known work on operative dentistry The editor has had the good fortune to be assisted by men who are thoroughly acquainted with their special subjects In this edition we meet with two new chapters the one on the treatment of impacted lower third molars and the other on the application of the Roentgen ray to dentistry The chapter on the impacted third molar, contributed by Dr C Edmund Kells, contains in full detail the technique he advocates in the removal of these difficult teeth and is well illustrated It is satisfactory to note that he strongly recommmends the taking of skiagrams in all cases of this character If this rule were observed in practice many failures to remove these teeth would be avoided and patients often saved an unnecessary amount of suffering Dr Kells is also the author of the chapter on the Roentgen ray in dentistry, and here again we have a thoroughly practical account of technique The editor is responsible for a short but excellent chapter on dental caries, in which he lays great stress on the relation of diet to caries, a relation which is of great importance, and the recognition of which is largely due to Dr Sim Wallace The chapter on orthodontics, contributed by Dr H A. Pullen, contains a clear presentation of the methods adopted by those who support in all cases the restoration of the teeth to the normal occlusion. Altogether, the volume in its new form well maintains its reputation

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[1] THE LANCET Dec 2nd 1911 p 1570

LIBRARY TABLE

A Practical Guide to the Inspection of Meat and Foods By A. E BONHAM Exeter William Pollard and Co 1915 Pp 120 —The author of this book is the chief sanitary inspector and superintendent of the public abattoirs at Exeter and has also held similar posts in sanitary service at King s Norton, Birmingham, and Norwich His experience is therefore a wide one and his book bears evidence of a thorough practical knowledge of the subjects with which he deals, being written, moreover as a note rather than as a literary manual But if often the notes are somewhat abruptly written, the instructions given are just what are wanted, and those who are preparing to take up the work of meat and food inspection, as well as those already engaged in such very important work, will find the information very serviceable. The ground covered seems to be complete, and the administrative laws concerning the inspection of meat and food are wisely included in the text.

Poland as an Independent Economic Unit By STANISLAW POSNER. With an introduction by SIDNEY WEBB Published by Allen and Unwin for the Polish Information Committee St Martin s Lane, London W C Price 6*d* —The central idea of this ' impressive account of the material resources of Poland ' as Mr Sidney Webb calls it is that there is a natural necessity for the unity of Poland The partition of Poland was a crime against the people of Poland but according to Mr Posner it was equally a crime against the laws of nature of geology and of geography , this he states, being the reason why the Polish question has remained unsolved for 150 years The pamphlet is a plea that the three divisions of Poland should be united once more and the Polish State re-created

Back to the World By MARY WALL. London Chapman and Hall 1916 Pp 328 Price 6*s* net —The story opens with an admirable situation one that on the whole, has been *too* much for the author A young wife manifesting weakness of intellect shortly after the age of 20, is taken to an asylum at the age of 24 and is not released for 25 years when she returns to her husband at the age of 49, and on the eve of the war The following is a footnote of her case as the author thinks that it would have appeared in our columns No 5932, *Quicklime on Mind* K M Young married woman, aged 23 Treated for Puerperal Mania—unaccountably seized with Acute Mania on her twenty fourth birthday passed through normal phases of the malady but instead of recovering on being worn out and dying of cerebral exhaustion, settled into hopeless insanity Health normal But has now been insane for more than 20 years " It would be unfair to tell the plot of a carefully constructed narrative but we can recommend the book to our readers as interesting though unequal

The Night Cometh A Novel By PAUL BOURGET London Chatto and Windus 1916 Pp 247 Price 6*s* net —This is a translation by G Frederic Lees of Le Sens de la Mort ' a novel by Paul Bourget which was issued last year The book sets out the problems which suggest themselves to all thinking persons in respect of life after death but does not deal with them in a particularly satisfactory manner Certain war scenes are written with Paul Bourget's well-known skill, but on the whole the terror of the situation which he describes will not be realised by the reader

Vive La France By E ALEXANDER POWELL London William Heinemann. Pp 253 Price 3*s* 6*d* net.—This is a fine tribute to the patriotism and fighting spirit of our allies The author has been on the field with the French and describes the struggles in Alsace and the Vosges, in Champagne and on the British lines The book is simply written and well illustrated There is little in it that will be new to those who have read regularly the literature of the war, but the facts are put together in a vivid manner and the illustrations are properly explanatory of the text

JOURNALS

Lyon Chirurgical Vol XII , Nos 3–6 —One of the points which surgeons have had to revise and alter during the present war has been the treatment of gunshot wounds of the abdomen At the outset of the war surgeons had a preconceived notion that abdominal injuries were best left alone without operation. Experience gained in the South African War had shown that a patient generally recovered from a wound of the abdomen if he were allowed to rest without the administration of food, the bullet appearing to do little more harm to hollow viscera than making a small hole which soon became glued over with lymph But in the present war it was soon evident that such happy results were not obtainable, and the reasons are not far to seek. In South Africa almost all abdominal injuries were the result of long range rifle fire, in which the wounds of entry and exit were not large The ground was as a rule dry and sandy and the patient could be picked up and attended to with promptitude and without much trouble. In the present war conditions are very different The larger proportion of injuries are from shrapnel or portions of shell, which cause multiple and extensive wounds and are rapidly fatal Bullets are received at comparatively short range, and though the entry wound may be quite small the passage through the abdominal viscera may cause extensive laceration of the intestine, liver, spleen omentum, or mesentery, resulting in hæmorrhage or peritonitis Again, owing to the nature of the warfare, injured men cannot be got out of the trenches for many hours after the infliction of the wound and during that time have to lie in muddy trenches, in soil that has been highly cultivated and manured for centuries, and the clothes through which the bullet has passed are covered with mud Little wonder is it, then that the percentage of recovery from abdominal wounds is small, so small, in fact, that the chance of recovery from the wound of a bullet that has actually passed through the abdominal cavity and not merely punctured the abdominal wall is practically nil In the recent numbers of the *Lyon Chirurgical* a considerable amount of attention has been paid to the question of the advisability of submitting such men to operation with a view of reducing the mortality There appear to be among the French two schools termed respectively "abstentionistes" and "laparotomistes" On the whole, those who advocate laparotomy seem to have the most satisfactory results From their accounts it would seem that wounds of the small intestine are by far the most fatal, few surviving operation but practically none if left alone, which fact tallies very closely with the results of civil practice It is pointed out very clearly that the possibility of submitting all patients to operation within a reasonable period depends very much on the character of the fighting and the practicability of evacuating the wounded rapidly from the firing line to a place where an established hospital with all the facilities of an efficient theatre can be maintained In other words the essential for this work is that the aseptic technique shall be carried out in all its details, and as efficiently as in civil hospitals. After reading the articles it seems clear that in the present stage of the war there are among the French a large number of hospitals close behind the firing line where any abdominal operation can be performed with as great a degree of safety as in any civil hospital and that it is the opinion of many excellent surgeons that any wound of the abdomen which is not so serious as to be likely to be immediately fatal should be operated on and an attempt made to secure any bleeding point and suture any laceration of intestine In this way it is considered that the terrible mortality from abdominal wounds may be lessened. In this connexion it is interesting to turn to the official English "Memorandum on the Treatment of Injuries in War based on Experience of the Present Campaign" Here in the section "Wounds of the Abdomen as Seen at the Front," it is noted that the two chief complications of all abdominal wounds are (1) hæmorrhage and (2) perforation of hollow viscera, and there is no doubt that apart from shock due to extensive visceral lesions the first danger to the patient is hæmorrhage, and that this is a much more frequent cause of death than is peritonitis It is stated that under the following conditions a primary operation may reasonably be performed "(*a*) If a patient is seen within 12 to 24 hours from his injury and if his general condition is good, (*b*) if the wounds of entry and exit are near together so as to indicate that only a small part of the whole abdomen has been traversed, (*c*) if by protrusion of omentum or other evidence obtained on examination it is certain that the peritoneum is already opened, (*d*) if the patient is observed to become worse than a few hours previously, (*e*) if the conditions for doing an operation are satisfactory, (*f*) if a rise in the pulse rate or increasing rigidity of the abdomen occur at a slightly later date provided that the patient is in good condition"

Journal of Cancer Research Vol I, No 1, January, 1916 Cambridge University Press and Williams and Wilkins Co, Baltimore —The appearance of a new journal devoted to cancer awakens reflections on the necessity for such a journal and its prospects of success The arrangement followed in this country, and till recently in America, of publication in the existing journals, supplemented by the issue of special reports from the various laboratories, has worked well and while wishing the new journal success one may be sceptical of the likelihood of such a steady output of first-class work on this subject, of all others, as would justify the new publication But the first number is full of interest Miss A. E C Lathrop and Professor Leo Loeb contribute in continuation of their breeding experiments on mice evidence that castration before the age of six months and consequent elimination of the ovarian internal secretion (corpus luteum) diminishes the incidence of cancer of the mamma. Castration after the age of six months has no effect Prevention of breeding also diminishes the cancer incidence while raising the cancer age, though to a less degree than castration This is the opposite of the effect of exclusion of sexual activity on mammary carcinoma in women brought out in the Registrar General's report of last year Dr Stevenson's statistics showed a higher incidence of carcinoma of the mamma in the unmarried than in the married Dr F L Hoffmann analyses the cancer statistics of the countries in the Western Hemisphere From the statistical data of very varying quality he draws the tentative conclusion that the cancer death rate diminishes as we approach the equator Professor F C Wood and E H Maclean report the negative results they have obtained in treating animals with transplanted and spontaneous tumours with phloridzin Professor J Ewing contributes a very sane but rather conservative review of present-day cancer problems A clear and well illustrated account is given by G L Rohdenburg and F D Bullock of two transplantable sarcomata arising in the walls of parasitic cysts of the rats' liver The association of tænia cysts with tumour is regarded as evidence of the effect of chronic irritation in the etiology of malignant growths The last paper in the *Journal* proper is by the editor, Dr R Weil and deals with chemotherapeutic experiments on transplanted rat tumours After detailing experiments which showed that *intra vitam* staining of living cells had not been obtained, whereas necrotic tissue stained deeply, the actual therapeutic experiments with aniline dyes are described, these were entirely negative The remainder of the first number of the *Journal* is taken up with the proceedings of the American Association for Cancer Research Interesting papers followed by lively discussions, were read on primary liver tumours in mice (Slye Holmes and Wells) renal tumours in rabbits (E T Bell) tumours of the Japanese waltzing mouse and its hybrids (E E Tyzzer) and on cancer heredity (Miss M Slye) Miss Slye s suggestions for genetic prophylaxis of cancer on the ground that cancer behaved as a recessive met with sharp criticism and elicited a spirited rejoinder Several papers dealt with the Rous fowl sarcoma There were papers on cancer immunity by Dr Seelig and Dr Fleisher and by Dr Tyzzer and on the action of radium by Dr F C Wood and Dr Weil

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION

THE summer session of the Council came to an end on Saturday last, May 27th

TUESDAY, MAY 23RD

Registration of Saskatchewan Qualifications

A report was presented by the Executive Committee in regard to the steps taken for the establishment of medical reciprocity with the Province of Saskatchewan Inquiries were made in regard to the curriculum in that province, and information as to the adoption of the five years course in 1915 having been received, the President, in virtue of the powers conferred upon him, directed the Acting Registrar, on April 5th, 1916, to register any person who produced the Licence of the College of Physicians and Surgeons of Saskatchewan, and who satisfied the prescribed conditions.

This report was recorded in the minutes of the Council

The Apothecaries' Hall of Ireland

The PRESIDENT, replying to a question put by Dr MAGENNIS stated that the Council was empowered by Sections 13 and 18 of the Medical Act, 1858, to incur the expense of sending an inspector to attend and be present on behalf of the Council at the professional examinations of the Apothecaries' Hall of Ireland

Dr MAGENNIS said that he saw by the minutes of 1903 that the President said in his address that the Council might perhaps think it no longer to be required that each examination of the Apothecaries' Hall should be inspected The Hall had been inspected about 50 times in the last 15 years The examinations of no other licensing body had been inspected during the last two years Might he ask that the President should make a similar suggestion now to that made in 1903?

The PRESIDENT replied that in 1903 the Council deliberately by resolution placed it in the hands of the President to say when a visitor or inspector should attend the examinations Two years ago the Council deliberately appointed another method, taking the matter out of the hands of the President That being so, he would be very slow to suggest that the Council should reverse what it had done

The Council adjourned

WEDNESDAY, MAY 24TH

Penal Cases

The Council began the consideration of penal cases

The first to be considered was the case (adjourned from Nov 4th, 1915) of Herbert Midgley Reeve, M R C S Eng L R C P Lond, M B Lond, of Southend-on Sea, who had been summoned to appear before the Council on the following charge —"That being a registered medical practitioner you knowingly enabled one Mary Ann Preece whose name had been removed by the Central Midwives Board from the roll of midwives to practise as a midwife in contravention of the provisions of the Midwives Act 1902, as if the said Mary Ann Preece were duly certified under the said Act And that in relation thereto you have been guilty of infamous conduct in a professional respect" The complainants were the Central Midwives Board

At the conclusion of the proceedings in November the President announced the decision of the Council as follows —

Mr Herbert Midgley Reeve —The facts alleged in the charge the Council has found to be proved Your offence was committed notwithstanding the fact that you were in possession of the following warning notice on "covering" — "Any registered practitioner who by his presence, countenance advice assistance or co-operation knowingly enables an unqualified or unregistered person whether described as an assistant or otherwise to attend treat or perform any operation upon a patient in respect of any matter requiring professional discretion or skill or otherwise to engage in professional practice as if the said person were duly qualified and registered is liable on proof of the facts to have his name erased from the Register" The Council takes a very grave view of the action of a medical practitioner who thus "covers" the practice of unqualified or uncertified women under whatever pretext they practise midwifery or otherwise attend and treat women in labour But in order to give you an opportunity of reconsidering your position in relation to this matter the Council has postponed judgment in your case till the next Session in May of which you will receive due notice You will then be required to attend and to produce testimony from your professional brethren as to your character and conduct in the interval.

Mr H M Reeve attended and was accompanied by his solicitor Mr W A Reeve

Mr Julius Bertram solicitor represented the Central Midwives Board

Mr W A REEVE submitted various testimonials on behalf of Mr H M Reeve as to the conduct of the latter in the interval These testimonials were from Mr James B Maxwell, Dr John F Walker, Dr C Grant Pugh, medical officer of health of the borough of Southend-on Sea, and Councillor H William Cooper, of the Borough Insurance Committee

Mr Bertram said that he thought he was justified in saying on behalf of the Central Midwives Board, that they had heard with much gratification the evidence tendered on behalf of the practitioner, and they had nothing further to add

Mr W V Reeve addressed the Council He said that it had not been suggested that there was anything in the nature of pre arrangement between the practitioner and the nurse to contravene the Act There were mitigating circumstances in the case Taking into consideration the testimonials of his client's professional brethren, his hitherto untarnished record, and the long period which had elapsed since the occurrence of this case, he appealed to the Council that the judgment which they would pronounce would be such as to enable his client to carry on his practice as heretofore

Mr H Midgley Reeve expressed regret that this case should have occurred and assured the Council that such conduct would not happen again in his practice

The President announced the decision of the Council as follows —Mr Reeve I have already informed you on behalf of the Council of the grave view it takes of the nature of the offence, specified in the charge, which had been proved against you, but having regard to your assurances as to your conduct in the future, the Council has not seen fit to direct the Registrar to erase your name from the Medical Register

The Council proceeded to consider the case of Frederick Robinson L.R C P Edin of Masbro, Rotherham, who had been summoned to appear before the Council on the following charge That being a registered medical practitioner you by your assistance knowingly enabled a Mrs Fisher, a woman not certified under the Midwives Act, 1902, to attend women in childbirth under cover or pretence that such women were attended or to be attended by you or by her under your direction, thereby enabling the said Mrs Fisher in contravention of the said Act to practise as if she were certified thereunder And that in relation thereto you have been guilty of infamous conduct in a professional respect "

The complainants were the Central Midwives Board, who were represented by Mr Julius Bertram, solicitor

Mr Frederick Robinson did not attend nor was he represented A telegram was intimated from him stating that he would not be present

Mr Bertram addressed the Council on behalf of the complainants He said that under the Midwives Act the only persons who were entitled to attend women in childbirth, habitually and for gain were duly qualified medical practitioners and certified midwives He wanted to make it clear that the Central Midwives Board had no desire or intention to interfere in any manner with the question of the discretion of every medical man to conduct his own practice in his own way They were the complainants in this case only because of the participation by a medical man in what, as they thought, was really the practice of another person who was not entitled to carry on that work The Council had put their views with regard to "covering into a resolution warning medical men of the consequences There were no doubt cases near the border line but to comply with the Council's requirements the medical man must be in charge of the case and be primarily responsible He must have had an intention to be free to attend the case The woman who attended must, in the view of the medical man be acting under his directions He thought that the evidence would be sufficient to allow the Council to say that this was a case of covering " He thought that all the witnesses whom he would call would say that there was no direct engagement Only in one case did the practitioner pay more than a single visit There were certain other things which Mr Robinson did He notified the birth to the medical officer under the Notification of Births Act The actual delivery was conducted by the uncertified woman but the medical man signed the certificate for the benefit under the Insurance Act

Amongst the witnesses whom Mr Bertram called were certain women who stated that Mrs Fisher had attended them in their confinement Several of them stated that Mr Robinson had called next morning but had not examined them

Miss Mary Stewart inspector of midwives and health visitor Rotherham said that the notifications of births in the confinement of certain of the previous witnesses were signed by Mr Robinson

Letters were read from Mr Robinson denying the charge

The President said I have to announce that the Council have judged Frederick Robinson to have been guilty of infamous conduct in a professional respect and have directed the Acting Registrar to erase from the Medical Register the name of Frederick Robinson

The Council considered the case of Kenneth Ram Gujral Shaw, M B, Ch B Edin, who had been summoned to appear before the Council on the following charge —"That being a registered medical practitioner you were convicted of the following misdemeanour—viz, (1) On Sept 17th, 1915, at the Thames police court, of being drunk and disorderly, in respect of which offence you were bound over in the sum of 60s to be of good behaviour for six months (2) On Sept 21st, 1915, at the County of London Sessions, of exposing your person, in respect of which offence you were on Oct 12th, 1915, bound over in the sum of £5 to appear for judgment if called upon within 12 months "

Mr Shaw did not attend, nor was he represented

Mr Harper (the solicitor to the Council) stated that notice of the inquiry had been sent to the practitioner at Messrs Cook's by means of a registered letter Messrs Cook, following instructions, had on April 30th forwarded the letter to Shaw, c/o the Mediterranean Expeditionary Force, Egypt The Director General of the Army Medical Service had been written to respecting Shaw, and a reply had been received to the effect that Shaw had not been appointed to a commission in the Royal Army Medical Service though it was stated that one answering his description had communicated with the War Office regarding such an appointment in 1913 A similar letter of inquiry addressed to the Admiralty had elicited the reply that no one answering the description given had applied for a commission as a surgeon in the Naval Service

Two certified copies of the convictions were put in

The President intimated the decision of the Council as follows I have to announce that Mr Kenneth Ram Gujral Shaw, having been proved to have been convicted of the misdemeanours alleged against him in the notice of inquiry, the Acting Registrar has been directed to erase his name from the Medical Register

The Council then proceeded to the consideration of the case of Daniel Evans Powell M B, C M Glasg, of High street, Tooting, who had been summoned to appear before the Council on the following charge "That being a registered medical practitioner you by your assistance knowingly enabled one Jenny Walter, a woman not certified under the Midwives Act, 1902, to attend women in childbirth under cover or pretence that such women were attended or to be attended by you or by her under your direction, thereby enabling the said Jenny Walter in contravention of the said Act to practise as if she were certified thereunder And that in relation thereto you have been guilty of infamous conduct in a professional respect "

The complainants were the Central Midwives Board, who were represented by Mr Julius Bertram, solicitor

Dr Powell attended, and was accompanied by Mr J A C Keeves, counsel instructed by Messrs Webster, Butcher, and Sons, solicitors

The proceedings had not gone far when they were adjourned until the following day

The Council adjourned

THURSDAY, MAY 25TH

Restoration to Register

The President announced that the Acting Registrar had been directed to restore to the Medical Register the name of Mr Casper Denis Downing

Penal Cases

The Council again considered penal cases

The first to be considered was that of Henry William West M R C S Eng, L R C P Lond, Old Basford, Notts, who had been summoned to appear before the Council on the following charge "That being a registered medical practitioner you were on Nov 1st, 1915 convicted at the City of Nottingham assizes of feloniously killing and slaying one Harriet Ann Hodgkinson and sentenced to seven years' penal servitude

Mr Harper, the solicitor to the Council, put in the certificate of conviction

The President said, in announcing the decision of the Council Mr Harper, I have to announce to you that Henry William West has been proved to have been convicted of the felony alleged against him in the notice of inquiry and that the Registrar has been directed to erase his name from the Medical Register

The Council proceeded with the further hearing of the charge against Daniel Evans Powell, which was adjourned from the previous day

Mr Bertram in opening the case stated that a woman named Jenny Walter owned a maternity home at Tooting, to which a large number of married and unmarried women went for the purposes of their confinement Proceedings were instituted against her at the instance of the London County Council for the contravention of certain sections of the Midwives Act In these proceedings she alleged that she was acting in all the cases alleged against her under the directions of a qualified medical practitioner Dr Powell gave evidence in a manly way to support the contention of Mrs Walter that she was acting in all the cases alleged against her under the directions of a qualified medical practitioner The evidence then disclosed that there was a verbal working arrangement between this woman and Dr Powell by which when women were confined in this house they received medical attention, or at any rate inspection by him It was alleged that at none of the cases referred to was Dr Powell present at the actual delivery In all cases he (Mr Bertram) believed that the notification of birth was given by Dr Powell He, Mr Bertram, had applied for the actual notifications, but the Wandsworth Public Health Committee had passed a resolution that these were not to be produced except under a subpœna

Several women who were called as witnesses stated that Walter had attended them at their confinements One of these who had seen Dr Powell the next day stated that when she went to Nurse Walter the latter had said that the fee was inclusive for her own services and those of the doctor

Dr DANIEL EVANS POWELL made a statement in his own defence Answering his solicitor, he said that in October, 1914, he had been called in to attend an urgent case at Nurse Walter's As he was going away Walter asked him if he would attend some of the cases He said that any difficult case he would be glad to attend, but he added that he would prefer them to go into the infirmary He had attended a number of cases at this house and he was actually present at some of the cases at confinement

Cross examined, he said that when he made the arrangement it was his honest intention to be present to do the delivery

Mr BERTRAM Did you ever give her any directions as to how to carry out the confinement?—Not as to the confinement but as to the care of the patient and child and as to nourishment to give

If she could deliver the patient why should she send for you at all?—Because I had to give medical supervision to the case

Mr BODKIN (the Legal Assessor) Was it because she was an unregistered woman?

Dr POWELL That was the reason

Mr BUTCHER (solicitor for Dr Powell), in addressing the Council, said that his client frankly expressed sorrow for the manner in which he had acted, which was due to inadvertence He would never be a party to any indiscretion of the kind again

The PRESIDENT in announcing the decision of the Council said Mr Powell, the Council has carefully considered the charge made against you, which in effect was that you had by your assistance knowingly enabled a woman not certified under the Midwives Act, 1902, to attend women in childbirth under cover or pretence that such women were attended or to be attended by you, or by her under your direction, thereby enabling her to practise as if she were certified The facts alleged against you in the charge the Council has found to be proved The Council takes a very grave view, from the public point of view of the danger which arises from medical practitioners lending their names for such a purpose and "covering" the practice of unqualified or uncertified women, under whatever pretext they practise midwifery or otherwise attend and treat women in labour But in order to give you an opportunity of reconsidering your position in relation to this matter, the Council has postponed judgment in your case till the next session in November, of which you will receive due notice You will then be required to attend and to produce testimony from your professional brethren as to your character and conduct in the interval

FRIDAY, MAY 26TH

On consideration of the case of James Andrew Baird Thompson, registered as of South Bermondsey the following charge was dealt with That being a registered medical practitioner you abused your position by committing adultery with a Mrs Grigson, whom and whose husband and child you had attended professionally, which adultery you were found to have committed by the verdict of a jury given at the trial of the case of Grigson v Grigson and Thompson in the Probate, Divorce and Admiralty Division (Divorce) of the High Court of Justice on Oct 20th 1915 and in which the decree was made absolute on May 8th, 1916 And that in relation thereto you have been guilty of infamous conduct in a professional respect"

Dr THOMPSON called Mrs Grigson as a witness and he also denied that the professional relationship existed

The PRESIDENT in intimating the decision of the Council said Dr Thompson I have to inform you that the Council has judged you to have been guilty of infamous conduct in a professional respect and has directed the Registrar to erase your name from the Medical Register

The Council considered the case of William Joseph Ryan L R C P Edin L R C S Edin, L F P S Glasg who had been summoned to appear before the Council on the following charge "That being a registered medical practitioner you were convicted of the following misdemeanours—viz (1) On Feb 27th, 1914, at the Lambeth police court of being drunk and incapable, and fined 3s, (2) on April 7th, 1915 at the Tower Bridge police court of being drunk and disorderly, and fined 5s or five days, and (3) on Feb 22nd, 1916, at the Bow street police court of being drunk and incapable, and fined 10s

Mr Ryan did not attend nor was he represented

The PRESIDENT intimated the decision of the Council as follows I have to announce that William Joseph Ryan having been proved to have been convicted of the misdemeanours alleged against him in the notice of inquiry, the Registrar has been directed to erase his name from the Medical Register

The Council considered the case against William Bonallo The Dental Committee reported that the said William Bonallo was registered in the Dentists Register on Dec 31st, 1878, as in practice on July 22nd, 1878, and his address in the Register for the current year was Cramlington Hall, Cramlington, Northumberland

The Committee found that it was established by the evidence That on Nov 2nd 1915, the said William Bonallo was convicted at the Northumberland assizes of feloniously using a certain instrument with intent to procure miscarriage, and was sentenced to three years' penal servitude"

Mr Bonallo did not attend nor was he represented

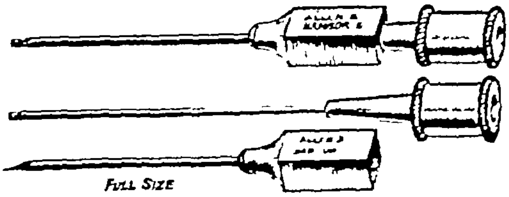
The PRESIDENT intimated the decision of the Council as follows I have to announce that William Bonallo having been proved to have been guilty of the felony alleged against him in the notice of inquiry, the Council has directed the Registrar to erase his name from the Dentists Register

The Council adjourned until the following day

New Inventions.

A NEEDLE AND CANNULA FOR INTRAVENOUS INJECTION

FOR some months past I have been meeting with patients who, immediately after an intravenous injection of a concentrated solution of galyl or kindred drug, have been affected with bad arms, some with a general inflammation extending from the needle puncture, some with small abscesses, and two with sloughs, one 2½ inches in diameter The history in each case has been the same—namely, that pain started during the injection One case, a small slough occurred after an injection by myself, and was due to a slight leakage of the drug outside the vein during the injection, caused by a movement of the needle. I am certain that all the other cases were caused in a somewhat similar manner, the leakage being due to a double puncture of the vein by the needle made either when introducing it, or as the result of movement by the patient or of the syringe To prevent this double puncture I have devised a neat needle and cannula (see figure) after the pattern of the needle and cannula of Mr Barker's spinal analgesia syringe but finer and much shorter The cannula should be used to draw up the solution into the syringe and then, after plunging the needle into the vein, the cannula attached to the syringe is pushed along the needle as far as it will go and the injection given As the cannula projects beyond the point of the needle the whole can be moved about in the vein without any fear of perforating it In fact it is a good plan before injecting to push the needle and cannula farther along the vein to make sure that it is free and to get beyond any second puncture that may have been made when introducing the needle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Treatment is carried out for three weeks

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After this a Wassermann Blood Test should be made

Supsalvs,	adults, 0 10 grm , box of	6	12/-
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THE TREATMENT OF DIABETES.

Diabetes—that is to say, the elimination of glucose through the urine—is due to the deviation and the functional insufficiency of the two important viscera of the organism the liver and the pancreas For a considerable time medical men were of opinion that opotherapy—that is to say, the administration of the homologous organs derived from healthy animals—might supply this hepato pancreatic deficiency, but many began to find that organic extracts exerted only a comparatively modern influence The treatment of diabetes mellitus has therefore remained *clinical* and the drug which we now introduce, **DIABETIFUGE**, consists in a synthesis of the principal chemical agents that have yielded **incontrovertible results in the treatment of Diabetes**

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Continue for 10 days making an analysis of the urine and if the amount of sugar eliminated in the urine has decreased sufficiently reduce to 1 cachet during 10 days Stop all treatment after taking the cachets for 20 days

Rest for 20 days and then take up treatment again

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THE LANCET.

LONDON: SATURDAY, JUNE 3, 1916.

Medical Practitioners and the Military Service Acts

THE Central Medical War Committee, the Committee of Reference formed by the Royal College of Physicians of London and the Royal College of Surgeons of England to deal with special cases, and the Scottish Medical Service Emergency Committee, are now recognised in the Regulations made under the Military Service Acts as the Professional Committees for all medical men who come within the provisions of the Acts. The effect of this recognition, which was announced last week in THE LANCET, is that every medical man, married or single, under the age of 41 next birthday, and consequently liable for service in the army, will come under the purview of one or other of these three committees on the question whether it is his duty to take a commission in the R.A.M.C. or to continue as a civilian practitioner. Practitioners of military age in England and Wales may be divided into those who are enrolled and those who are not enrolled under the scheme of the Central Medical War Committee, a body whose activities have resulted in the enrolled being the larger class. A medical man under 41, who is enrolled, will not be called up for service with his class by the recruiting authorities, but while pursuing his civil avocations he will be liable to be called upon to take a commission in the R.A.M.C. if and when the Central Medical War Committee decide that it is his duty to do so. If he should receive a notice from the recruiting authorities calling him up, the production of his certificate of enrolment restores him at once to his proper position in accordance with a definite Army Council Instruction. In Scotland the same procedure applies with regard to those who are registered with the Scottish Medical Service Emergency Committee.

But a modification in the position of the enrolled man under 41 has resulted from the passing of the new Military Service Act. Hitherto medical men who have taken service since the beginning of the war as doctors in the army have done so on the system of a contract for one year or until their services are no longer required, whichever happens first. It is now announced authoritatively that every medical man under 41 is in virtue of the new Acts, under an obligation to serve not only for 12 consecutive months but for further periods if needed with such intervals as may be determined, if the military authorities (acting on the advice of the Professional Committees) require him to do so. In view of the obligation on all other classes of the community to serve for the duration of the war, the medical professional chemists, and, indeed, object to this new condition [illegible]pointing to find the forces remained voluntary, the Cealcome such War Committee was fully aware that a medic them by enrolling undertook no more than an obligatheir for one year of service, even while contemplating the possibility that the prolonged duration of the war might necessitate a further call. So men who have completed their period of service are invited to re-enrol, thus placing themselves again under the Professional Committees to determine whether and when their services will be again required. In the new conditions every medical man under 41, whether he enrols or not, will be under the enhanced obligation, to be fulfilled by him if and when the military authorities offer him a commission on the advice of the Professional Committee concerned. A given doctor, however, will, we hope, not be selected for a second period of service under the enrolment scheme until other men, equally eligible in other respects, have been taken for service; this would seem to make it unlikely that an enrolled man would need to be called upon without a substantial interval between any two periods of service. Of course, any doctor who prefers his service to be continuous may re-engage at the end of his first year.

In our opinion in each of the cases here under consideration the medical man should enrol under the new conditions—namely, with an obligation not limited to one period of service of 12 months, but extended to such further period or periods as may be found necessary; he must trust the War Office in making its call to give full value to the advice of the Professional Committees. By so doing he will be helping to retain for the medical profession its privilege that the doctor can always fulfil his obligation for military service, not in the ranks, but by becoming a commissioned officer. For if he is enrolled he will not be called up by the recruiting authorities for military service under the compulsory provisions of the Military Service Acts. He will be liable to 12 months' consecutive service, but his obligation to serve (qualified in these ways) will be exacted from him only if and when it is deemed right by a committee established for the purpose by his own profession. All medical men under 41 who do not enrol under the new conditions will be called up by the military authorities in their classes. If they do not desire to be taken for general service it will be necessary for them to appeal to a local tribunal for exemption. Under the section of the new Military Service Act which deals with medical men, the local tribunal will refer the case to one of the Professional Committees, when the case will be considered, and a recommendation made to the local tribunals which will be binding on them. It will be seen, therefore, that whether a man is enrolled or not, his case will be decided by the same Professional Committees. The enrolled man saves the time of himself and of the tribunal by enrolling, the unenrolled will go through certain formalities only to arrive at the same place. Throughout these remarks the case of conscientious objectors has not been alluded to; with them the Professional Committees do not deal.

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It i... aps not sufficiently remembered by us how deep... the world is indebted to American investigators in the field of preventive medicine American researches have thrown a bright light upon difficult problems concerning what we call tropical disease Yellow fever may be instanced in this connexion It was in 1900 that the United States Government appointed a Commission to proceed to Havana, under the leadership of Major WALTER REED, of the Medical Corps, with whom were associated Assistant Surgeons JAMES CARROL, JESSE W LAZEAR, and A. AGRAMONTE, to investigate the etiology of this disease They succeeded in demonstrating among other things that it was spread by the bites of infected stegomyia mosquitoes and in no other way, and REED'S experiments remain as models of scientific research, both for the exactitude with which they were adapted to the points to be proved and for the precautions taken to exclude all sources of error To their everlasting credit the American soldiers offered themselves fearlessly as subjects for experiment, some of them after being bitten by infected mosquitoes contracted the disease, among them being CARROL and LAZEAR, the latter of whom died a martyr to science Based upon these experiments preventive measures, including mosquito destruction, were formulated at Havana, which for 150 years or more had been a veritable hot-bed of yellow fever, but from which since 1901 the disease has completely disappeared, save for a few occasional imported instances The same methods have been employed more recently in other endemic areas of the disease such as Rio de Janeiro, Para, Manaos, and elsewhere, from which yellow fever has now also vanished Another great victory was achieved, and an object lesson given to all tropical countries, in the Panama Canal Zone, where yellow fever, malaria and other insect borne diseases had in the past ravaged the population year by year The Americans began to construct the Isthmian Canal in 1904, and Colonel (now Surgeon General) GORGAS who had formerly served as chief sanitary officer at Havana when Reed's Commission had made their experiments, was appointed chief of the new sanitary department In view of the previous disastrous experiences in this region it is safe to say that without the labours of this sanitary department the Panama Canal would never have been completed Through the well directed measures of Colonel GORGAS and his staff yellow fever, malaria, blackwater fever, dysentery, and other diseases were brought entirely under control, and the general death rate among the labourers, which was 52 45 per 1000 in 1904 fell to 20 49 in 1912 Briefly, what was once an intensely unhealthy area became salubrious, and the doctrines of MANSON and ROSS were triumphantly established The work at Panama, like that at Havana, is always alluded to by writers on germane subjects, but its detailed history would repay more attention than it has received, while there are other valuable American contributions to preventive medicine which are frequently passed over The investigation of that mysterious disease pellagra has been very carefully prosecuted in the United States in recent years, by the McFadden Thompson Commission of New York and other workers, and already with encouraging results A great decrease has recently taken place in America and other parts of the world, including Egypt, in the incidence of ankylostomiasis or hookworm disease, due partly to the efforts of ASHFORD and others with the assistance of the American International Commission, an offshoot of the Rockefeller Foundation The etiology of exanthematic typhus was independently worked out by two groups of American investigators, ANDERSON and GOLDBERGEN, and RICKETTS and WILDER, it was only an unlucky chance which prevented the earlier publication of their results before those of M NICOLLE and his collaborators in Tunis had been made public their incrimination of the body louse as the insect transmitter of this disease The credit therefore of the discovery must be shared by the Americans Much new light has been thrown upon cerebro spinal fever and epidemic poliomyelitis by American workers, and American military and other medical officers stationed in the Philippines have contributed greatly to the general fund of knowledge of tropical diseases, particularly as regards beri beri Nor do these examples exhaust the list, but they will suffice to show some at least of our indebtedness in preventive medicine to scientific workers in America

Our American visitors will doubtless find a good deal that is new to them in our arrangements for the care of the sick and wounded, for the prevention of disease among our troops at home and in the field, and for maintaining in other ways the health and efficiency of the British army It may be mentioned in this connexion that although antityphoid inoculation originated in England, the adoption of the procedure in America helped largely to confirm its value and assisted in gaining its acceptance by our own military authorities We understand that only one officer of the British army has died from typhoid fever since the commencement of the war, and we believe that at the present moment there are not more than two dozen typhoid cases among our troops This remarkable freedom of an immense army in the field from what has been generally deemed a necessary curse is greatly due to the systematic adoption by the authorities in the United States of WRIGHT'S work

Annotations.

"Ne quid nimis"

THE NUMBER OF MEDICAL STUDENTS

The following is an official return, received from the General Medical Council, of medical students in actual attendance, during May, 1916, on courses of professional instruction at medical schools and approved teaching institutions —

—	Men	Women.	Total	Men under 18	Men from outside the United Kingdom
First year	1422	636	2058	489	102
Second year ..	783	295	1078	26	129
Third year	519	163	682 } 1905	0	146
Fourth year	1078	145	1223 }	0	186
Final year	922	140	1062	0	115

A note to the return, which is signed by Sir Donald MacAlister, President of the General Medical Council, adds that a number of third year students who passed a professional examination at the end of the winter session have been transferred to the fourth year class by direction of the military authorities

THE TRAFFIC IN NARCOTIC DRUGS

The Order of the Army Council which we recorded last week restricting the sale of narcotic drugs to soldiers is of special importance, since it introduces into medical and pharmaceutical practice an entirely new principle so far as this country is concerned, placing on the liberty of the subject a restriction of a nature that is novel to our poison legislation. In practically every other civilised country but our own the distribution of narcotic drugs is limited by law to cases of legitimate medical necessity, and the conditions which the new Order now makes applicable to our army have long been enforced on the whole of their populations It would be a good thing if public opinion could be directed in this country towards the creation of a popular demand that a measure now applied to one section of the community should, through an emergency Act of Parliament, be made applicable to all sections If, while the public is in the mood for the enforcement of salutary restrictions on liberty, the provisions of this new Order were extended to the whole population, there are strong reasons to believe that we should never revert to our present slipshod methods of dealing with the distribution of poisons If we wait until the war is over we shall find ourselves confronted with all those pettifogging controversies and the clamouring of vested interests which always put a brake on progress Under present conditions such drugs as barbitone, sulphonal, and trional are almost as easy to purchase as chocolates, and so long as the druggist labels them in accordance with the law he can spend the whole of the day handing bottles of these hypnotic drugs to any customer who cares to ask for them Even cocaine and morphine can be purchased by almost anyone, for who is there who cannot obtain an introduction to some pharmaceutical chemist and so put himself and the purveyor on the right side of the present futile law? This question implies no misconduct on the part of pharmaceutical chemists, and, indeed, it would be surprising and disappointing to find that they as a class would not welcome such an alteration in the law as would place them beyond the unwelcome importunities of their customers The provision of the Order which requires medical practitioners who prescribe any of the scheduled drugs for soldiers to sign the prescription with their full name and address and to write on it the words "Not to be repeated" has long been advocated to apply to all prescriptions for such drugs as cocaine and morphine It is commonly acknowledged that the drug habit is sometimes acquired through the repeated use of prescriptions which the prescriber intended to be used only a limited number of times Compliance with this provision of the Order will initiate a salutary habit which many practitioners will no doubt continue when the Order which enforced it has become a thing of the past, even though the principle may not be embodied in permanent legislation

OBLITERATIVE ARTERITIS AND LEAD POISONING

The etiology of obliterative arteritis is somewhat obscure In the *Boston Medical and Surgical Journal* of April 13th Dr W Timme has reported a case the interest of which lies in the fact that lead poisoning appears to have been the cause A painter, aged 36 years, was admitted into hospital on Dec 21st, 1915 During the last year he had a typical blue line on the gums, which responded to local treatment by a dentist He had no palsies, but he complained of pain along the sciatic nerves and in some joints In 1913 pain in the left leg began after walking and ceased on resting, to begin again on walking This intermittent claudication became gradually worse, so that only short distances could be walked without resting In February, 1915, he could no longer walk. The left leg became heavy and helpless and cold and the seat of extreme pain and tenderness The calf became smaller and flabby He was treated with electricity and potassium iodide, but grew steadily worse Hot packs, massage, rest, and exposure to the sun were then tried and he improved A few ulcers developed on the outer side of the foot and spread rapidly They were treated with the therapeutic lamp and they healed In October the ulcers re formed and necrotic areas developed at their site Three weeks before admission to hospital the little toe was removed, but the sloughing continued On examination the patient was found to be a frail, anæmic, ill nourished man The tongue was coated and there was a suggestion of a blue line on the gums The muscles of the left thigh and leg were markedly atrophied No pulsation could be felt in the dorsalis pedis or any other artery of the left lower limb up to and including Poupart's ligament The urine contained traces of lead The fundi were normal The Wassermann reaction was negative Nothing is said about the treatment of the case, Dr Timme remarking "No adequate therapy has yet been devised" In this country Dr F Parkes Weber has pointed out the comparative frequency of arteritis obliterans among male Jews in the East End of London who are in the habit of smoking a large number of cigarettes He suggests that unwholesome food and racial factors play a part in the etiology Other causes suggested are syphilis and arteriosclerosis Kolisko has stated that he has seen obliterative arteritis frequently in chronic lead poisoning. This view is borne out by an American writer, Victor C Vaughan, who, in an article on mineral poisons, declares that the changes in the vessels in lead intoxication are those of arteritis obliterans. Arteriosclerosis, of course, is a well recognised result of this poison.

THE DEFINITION OF PORT WINE

THE decision of the Government to restrict the word "port" to that wine certified by the Portuguese Government to be the genuine product of the Douro region, and exported from Oporto, is a curious issue of the war. It has followed upon a statement made by the Portuguese Government that unless this definition was accepted they would not ratify the Commercial Treaty signed at Lisbon in August, 1914, under which both countries secured commercial advantages. It does not appear to be generally remembered that already some restriction as to the use of the word "port" is in force, although the definition did not go quite so far as the recent proposal. As was pointed out in a report on port wine published in THE LANCET in 1907, a general order of the British Customs requires the use of the word "port" to be confined to Portuguese wines, the designation to be accompanied by a declaration of the country of origin. The new restriction goes farther than this, as it excludes Portuguese wines produced outside the Douro district. Wines resembling to an extent the composition and character of genuine port wines are, of course, produced in other countries. But the designation must be qualified by the name of the country of their origin. Such are Spanish "port" or Tarragona, Cape "port," Canary "port," Cyprus "port," Palestine "port," Australian "port," Californian "port," Algerian "port," and so forth. Apart from considerations of commerce, the new measure is a good one. By a proper extension of accurate definition it encourages the principle of honest trading.

DISEASES OF ANIMALS ACTS

THE report for the year 1915 of the proceedings under the Diseases of Animals Acts and the Markets and Fairs (Weighing of Cattle) Acts[1] is somewhat shorter than in previous years, this being partly because the Tuberculosis Order of 1914 remains in abeyance. Of foot and mouth disease there were 56 outbreaks as compared with 27 in 1914, and with the exception of one isolated case, all the disease was confined to the counties of Somerset and Wilts. Anthrax shows a decline of 147 cases and glanders of 48 from the figures of the previous year, but this latter figure does not include army horses, among which it is understood there have been several cases. To trace the origin of the outbreaks of foot and mouth disease has been as difficult as ever. A possible source lies in the returning soldiers from France where the disease was prevalent near the British lines. The infection of pigs at Butleigh was ascribed to contaminated whey with which they had been fed. The movement of dogs and poultry was restricted in this outbreak. In checking the spread of the disease acknowledgment is made of help given by the North Somersetshire Yeomanry. Adequate civilian labour was impossible to secure while the staff of inspectors and veterinary inspectors had already been depleted. The value of quarantining imported dogs is emphasised by the discovery in March of rabies in a dog undergoing detention. Swine fever has been treated by the use of serum, and on the whole this treatment has been very favourably received by pig owners. Treatment was accepted and carried out in 390 outbreaks. The trade in foreign animals practically ceased in 1914, but special provision for a speedy revival of foreign trade has been made in case a scarcity in the meat supply should cause any serious rise in prices. Accommodation for Canadian animals has been arranged at Birkenhead, and for animals from other foreign sources at Avonmouth and Cardiff.

THE "TABARD-STREET AREA

IT is a matter for congratulation that the "Tabard street area," notorious for its insanitary conditions, is doomed. From a report of the Housing of the Working Classes Committee to the London County Council, dated May 10th, we learn that compensation has now been finally assessed in all the disputed claims in respect of property required for the Tabard street, Grotto place, and Crosby row scheme, and that terms of purchase have been arranged in all the remaining cases. The total expenditure on the purchase of the property will probably fall short of the original estimate made in 1910 by as much as £200,000, the reduced estimate now standing at £273,300. The reduction is partly due to depreciation of property in the area and partly to successful arbitration in connexion with claims for trade interests. We trust that the picturesque names will remain and the new Grotto place be cool and salubrious in the hottest weather.

THE EXTINGUISHING OF FIRES CAUSED BY BOMBS

A USEFUL report has been issued by a Committee appointed by the Home Secretary in March last, who were asked to conduct experiments to test the value of dry powder fire extinguishers as compared with water and other "first aid" appliances for extinguishing or effectively controlling fires such as are likely to be caused by bombs. The tests were carried out on April 3rd at the London Fire Brigade headquarters and in some condemned house property adjacent thereto. Every assistance was given to the Committee by the London County Council and the Fire Brigade. In each case the appliances were used by an unskilled person. In the opinion of the Committee the conclusion to be derived from these experiments is that, while none of the agents employed could be said to have any material effect on the combustion of the bomb itself, there was a very marked general difference between those experiments in which water was used and those in which dry powder was applied. The spread of the fire caused by the bomb was greatly limited and in some cases totally prevented by the application of water, whereas after the application of the dry powder the fire continued to burn although at each application some temporary check to the flames was observed. The Committee conclude that by far the best extinguishing agent is water and that the use of dry powder extinguishers gives a misleading sense of security while being practically useless for extinguishing or effectively controlling fires likely to be caused by bombs. The main constituent of the dry powder extinguishers was found to be bicarbonate of soda. It may be remembered that we reported in THE LANCET that the British Fire Prevention Committee recommended the use of a mixture of bicarbonate of soda and saw dust for the extinction of small petrol fires In this case, however, the use of sawdust appeared to be effective because it floats on the top of the petrol so to an extent excluding the air and smothering the fire The bicarbonate of soda it was added in the report, had certain advantages, but its use was not regarded as essential

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[1] Annual Report of Proceedings under the Diseases of Animals Acts and the Markets and Fairs (Weighing of Cattle) Acts for the Year 1915. Darling and Son, Limited, Bacon-street, London, E. Price 3d.

INJECTION OF THE GASSERIAN GANGLION FOR TIC DOULOUREUX

IN the *Medical Clinics of Chicago* for January Dr Ralph C Hamill, of the Cook County Hospital, has published the record of a case of trigeminal neuralgia successfully treated by the injection of the Gasserian ganglion with alcohol The patient was an Italian labourer, aged 37, whose illness had been of some ten years duration Paroxysms of pain occurred at very frequent intervals, running from the inner canthus of the left eye down into the left upper bicuspids This pain was described as consisting of lightning like jabs of tearing, wrenching, stabbing pain, coming on with full intensity, and lasting from a few moments to three minutes Swallowing, talking, chewing, shaving, &c, would all precipitate a paroxysm On objective examination no signs of organic disease could be detected, and there was no evidence of arterio sclerosis Tic douloureux is a well known clinical condition for which no adequate pathology has ever been demonstrated, and its etiology is obscure Where some definite local condition causes the pain there is usually a more or less constant dull ache apart from the paroxysms, whereas in so called idiopathic trigeminal neuralgia between the paroxysms the patient is often entirely free from pain The administration of various sedatives having proved unsatisfactory, Dr Hamill injected the Gasserian ganglion with 20 minims of the following solution alcohol 3½ drachms cocaine 1 grain, water to half an ounce The point selected for the injection was 2 cm below the zygoma and 2½ cm anterior to the external auditory meatus When the puncture is made at this point it is necessary to have the patient open his mouth as widely as possible, in order that the needle may clear the coronoid process of the inferior maxilla. The needle is pointed upwards at an angle of about 60° to the plane of the face and slightly backward At about 4 cm in from the surface bone is encountered, the pterygoid plate, by slightly withdrawing the point of the needle, changing its direction rather more backward, and elevating it somewhat, the operator gradually feels his way with the needle point past the edge of the pterygoid plate to the base of the skull, just lateral to the foramen ovale If the point is then inclined slightly downwards and advanced, sudden pain should be felt in the distribution of the inferior division of the trigeminal—viz, in the lower jaw, cheek, lip or tongue If the needle is now advanced another ½ cm pain will be *felt* in the other branches of the fifth The syringe is then connected to the needle and a few minims of the alcohol mixture is injected Immediately the patient complains of a sensation "as if thousands of little *darts* or needles had shot through the corresponding side of the face Assured by this sign, the physician can then inject a further ½ to ¼ c c, whereupon analgesia appears throughout the distribution of the nerve It is advisable to shield the corresponding eye during the first 24 hours following the injection, or even to suture the lids together Dr Wilfred Harris, however, has shown that corneal ulceration may be avoided by stopping short of total anæsthesia, the good effects are just as lasting from the point of view of relief from the pain

THE METROPOLITAN WATER-SUPPLY

THE report on the condition of the metropolitan water supply during the month of January by the Water Examiner appointed under the Metropolis Water Act was issued last week It is the briefest document so far issued by this authority, its size perhaps reflects the shortage of paper, which is now seriously inconveniencing public bodies The usual information on the chemical and bacteriological examinations, for which Dr A C Houston, the Director of Water Examination, is responsible, is summarised by Mr C Perrin, and does not, as hitherto, appear separately The tables containing the chemical and bacteriological results are, however, appended All the samples of water collected at the different works were clear, bright, and free from suspended matter The results of chemical examination showed that the raw waters of the New River, the Lee, and the Thames improved in quality as judged by the albuminoid nitrogen, permanganate, turbidity, and colour tests The filtered waters, however, deteriorated as judged by the albuminoid nitrogen (New River excepted) and colour tests (with the exception of New River, East London, Sunbury, and Chelsea) Compared with the 1915 averages, the raw waters yielded results worse than their respective averages as judged by the usual tests The filtered waters yielded similarly worse results All three raw waters contained more bacteria than their respective averages, while the filtered waters gave, generally speaking, not unsatisfactory results Whereas 95 0, 100 0, and 65 0 per cent of the samples of raw Thames, Lee, and New River water respectively contained typical B coli in one cubic centimetre (or less) of water, 83 4, 90 0 and 69 0 per cent of the filtered samples derived from the Thames, Lee, and New River respectively contained *no typical B coli* even in 100 times as much water examined—viz, 100 cubic centimetres The rainfall was below the average mean for the month taken for the previous 33 years

ITALY'S chief balneary resort, Montecatini, sustained (writes our Rome correspondent) a severe loss last winter in the deaths, within a few weeks of each other, of its consulting head, Dr Guido Baccelli, and of its medical administrator, Dr Pietro Grocco Their vacant posts have just been satisfactorily filled by the appointment in *succession* to Baccelli of Dr Augusto Murri, the veteran professor of clinical medicine in the University of Bologna, known also, since Baccelli's death, as "Dean of the Medical Faculty" throughout Italy, and by the appointment, as Grocco's successor, of Dr Giovanni Battista Queirolo, who has long held the clinical chair in the Pisan School with conspicuous acceptance One of the many sequelæ *expected* to supervene on the close of the present war will be, so far as Italy is concerned, a greatly increased development of her resources in balneary health resorts, with a view to retaining within her borders, and even to attracting from beyond them, much of the *clientèle* hitherto claimed (not always justly) by the German and Austro Hungarian thermal "cures" Montecatini will be among the first of Italy s balneary centres to receive the State encouragement in contemplation, and will enjoy, in the person of the Senator Dr Queirolo, a Parliamentary representation and support which must redound to its interests in every sense—medical, material, and administrative

THE Highlands and Islands Medical Service Board has issued under the title of a "Second Report" the various explanatory documents emanating from it up to the end of 1915 Several of these have been commented upon in THE LANCET at the time of their appearance, and their republication in the form of a Blue book makes the information contained in them accessible in a handy form. The lists of medical men and of their districts were originally sent out in the less convenient guise of posters Draft forms, including one of an agreement between the Board and a medical practitioner proposing to accept service under the Board, will be found among the appendices The pamphlet can be obtained from H M Stationery Office (Scottish Branch), Edinburgh, and the usual official publishing firms, or through any bookseller Its price is 3*d* and its reference number Cd 8246

THE annual meeting of the British Dental Association is to be held in the hall of the Royal Society of Medicine on June 15th, 16th, and 17th War injuries and gunshot fractures of the jaw will principally be dealt with, and an exhibition of appliances has been arranged The discussion opens at 2 30 P M on the 15th and at 10 30 A.M on the other days

A COURSE of three lectures on Inherited Disease in Children will be given by Dr Mary Scharlieb at 8 P M on Wednesdays, June 21st and 28th, and July 5th, in the Robert Barnes Hall, 1, Wimpole street, W, by permission of the Royal Society of Medicine The lectures, which are given free to women, will be illustrated by the epidiascope

MEDICAL SICKNESS AND ACCIDENT SOCIETY—The usual monthly meeting was held at the society's offices, High Holborn W C, on May 19th, Dr F J Allan being in the chair The accounts presented showed a falling off in sickness in comparison with the same period last year, and the experience is below the expectation for the four months—an unusual feature for the spring months It was reported that further sums had been invested in Exchequer Bonds, making a total of £18,000 now invested in War Stocks since August 1914 Applications were reported from members for annuities under the new table which is now registered by the department and is accordingly open both to members and non members, and it is hoped will prove satisfactory and useful to the profession generally The society now transacts all the three benefits it was originally founded for and at rates that it would be hard to beat and as far as the sickness is concerned impossible The committee have decided that in future the society will pay the usual fee of £1 1s for the medical examination of both new and additional proposals, the member to have the same right as hitherto of going to whom he pleases for such examination unless otherwise instructed by the society Membership is still open to those taking temporary commissions in the Royal Army Medical Corps or the Navy within certain limits with regard to amounts as so far the committee do not consider that the casualties justify them in any way altering their previous decision in this matter No extra premiums are charged to members of the two forces mentioned All applications for prospectuses and further information should be addressed to the Secretary Medical Sickness and Accident Society 300 High Holborn W C

THE COCKROACH ITS DESTRUCTIO AND DISPERSAL

A COMPARISON OF INSECTICIDES AND METHODS

By JOSEPH J H HOLT, M B, CH B VICT, D P H

THE common cockroach (*Periplaneta orientalis*) is one o the most widely distributed, as well as one of the mo repulsive pests of civilisation Its ubiquity and persistenc demonstrate alike its fecundity and power of adaptatio There is little record of investigations dealing with th nuisance Mr Frederick Laing Assistant in Entomology British Museum, informs me that most of the work on th subject has been done in America, and some time ago Much of the literature is old, because what has been don recently has been little more than a revision or repetition He kindly sent me a list of these publications with detail of some of the remedies suggested These I found of littl practical value

For some two or three years I have been testing the actio of various substances Preliminary investigations in reference to general conditions gave some unexpected results The cockroach is able to exist a long time without food o water One survived for 76 days in a Petri dish It ca live with a very limited air supply in a very small stoppered bottle one lived for 3 days Another survived submersion i water for 20 minutes The cockroach is an expert climber, a full grown specimen can crawl up the vertical side of a glass bottle Hence walls and ceilings offer no impediment to it It is not particular as to food supply, eating practically all kinds of organic matter and also its own dead It is, however, very clean in its habits and carefully cleanses its own body The cockroach is soon adversely affected by contact with its own excreta It prefers warm quarters migrating till it finds them Hence its predilection for kitchens on account of the constant warmth and available food supply It dislikes light but even constant exposure to it for long periods does not seem to harm it It is therefore evident that architectural prevision cannot keep out the cockroach, nor domestic cleanliness starve it out When once established it must either be destroyed or driven away

In the following experiments the liquid volatile bodies were used in a large wide mouthed glass stoppered bottle of about 1250 c c capacity In most cases the quantity was 1 drachm and this if volatilisation was complete would give a concentration of 3 2 per 1000 As however few of the bodies were completely volatile, the actual strength was considerably below this The liquid was sprinkled on lint which was then suspended in the bottle but did not touch the insects Three to six insects were used the time of death in each case recorded and the average noted This average is the one given in the tables Most of the experiments were repeated two or three times some much oftener The dusting powders and food poisons were tested in shallow trays covered over with glass to prevent the cockroach from escaping Mechanical beetle traps are of little use They were found to catch a very small proportion only and after they become rusty inside the cockroaches can easily crawl out

The cockroach appears to be more resistant in autumn but no correction has been made in the tables for temperature or season

Results of Experiments on the Lethal Effect of Various Bodies on the Cockroach

Volatile Bodies

	Lethal in—		Lethal in—
Bromine vapour 0·015 1000*	[illegible] min	Ammonium sulphide solution	15 min
Sulphur dioxide	2	Acetone	[illegible]
Chloroform 1·6 1000	1	Methyl alcohol	[illegible]
0·8 1000	2	Ethyl alcohol (spirit rect B P)	70
0·4 : 1000	5	Pyridine	[illegible]
Ether 6·4 : 1000	5	Amyl alcohol	[illegible]
3·2 : 1000	5	Wood naphtha	
Carbon disulphide 3·2 : 1000	8	Acetic acid concentrated	[illegible]
Carbon disulphide 0·5 : 1000	8	Paraldehyde	[illegible]
Bromoform 3·2 1000	9	Formaldehyde	[illegible]
0·8 1000	9	Nicotine (commercial alkaloid)	[illegible]
Hydrocyanic acid [illegible] 3·2 1000	10	[illegible]	[illegible]
		[illegible]	[illegible]

* In each instance the [illegible] taken place

Aromatic Oils

Ol. Sinapis essent.	75 min.	Ol Anisi	25 hrs
,, Origani (oil of thyme)	3 hrs	,, Pini sylvestris ..	25
,, Aurant.	6½	,, Camphoræ	36
Rosmarini	8	Pimentæ ..	38
Eucalypti	9	Cedri ..	39
Succini	9	Fœniculi ..	44
Citronellæ ..	11	,, Sassafras ..	49
Cajaput. ..	12	Caryophylli	54
Carui	12	Valerian	59
Myristicæ ..	14	Copaibæ ..	60
Lavandulæ	14	,, Cadinum	60
Limonis	15	,, Santal flav	85
Cinnamomi ...	18	Sinapis express ..	+100
Menth. pip	20	Staphisagræ	+100 ,,
,, Geranii ..	21	Terebinth	+100
Capsici rub ..	23		

Coal Tar Derivatives

Toluol (b p * 110° F) ..	45 min.	Creosote commercial	3½ hrs
Benzol (,, 80°)	45 ,,	Phenol (b p 180°)..	10 ,,
Xylol (,, 140°)	82 ,,	Naphthalene (,, 216°)	63
Coal gas	2 hrs	Anthracene (,, 360°)	+150

Paraffin Derivatives

Benzoline (b p 60°)	17 min.	Petroleum ether (b p 36°)	2 hrs
Heptane (,, 98°) ..	40 ,,	Paraffin (burning oil) (b p 150°–289°)	33 ,,
Petrol (,, 36°–69°) ..	60		

* b p = boiling point.

So far all the substances kill through the respiratory system

Dusting Powders

Chloral hydras pul	4 hrs	Mustard common	36 hrs
Hydrarg perchlor dry	4	,, + boric acid (aa)	22
Potass sulphurata 4% and tart. ac	4½	,, + sod. carb exsicc.	28
Iodoform, crystals ..	9	Snuff (tobacco)	47
Iodine	13	Dalmatian insect powder	48
Sod fluoride pul	11	Dalmatian insect powder ether extract ..	38
,, + boric acid	21	Dalmatian insect powder after ether extract ..	75
,, + sod carb exsicc.	24	Keating's insect powder	50
Insecto	33	Veratr alb pulv	86
Bleaching powder	19	Lycopodium powder	110
,, + boric acid ..	11½	Alum pulv	+100
Pepper common	24	Borax ...	+100
,, + sod bicarb ..	18½	Hellebor nigr pul ..	+100
Pepper common + sod. carb exsicc. ..	35	Lead oxide	+100
Pepper common + boric acid ..	68	Plaster-of Paris	+100
Pepper black	22	Potass carb.	+100
,, white	50	Red pepper pul	+100
Boric acid	25	Sod chloride ..	+100
Bismuth carb ..	27	Santonin	+100 ,,
		Sulphur sublim	+100
		Quinine sulph.	+100

Most of these kill through the respiratory system

Food Poisons

	Lethal in—		
Arsen. oxide + flour + sugar (aa)	41 hrs	..	—
,, 2% + treacle	+96		—
Phosphorus (fumes from metal)	6½ ,,	..	In small covered dish.
Serum phosphoratum 5%	6½		
,, 10% ..	178 ,,		In large bottle Open top
Phos. 5 + flour 95 + aq 600 in paste	36		In small covered dish
Phos 5 + flour 95 + aq 400 in paste	40	..	
Roachaline,	43	..	
Blattes, ...	37		
..	107	...	,, ventilated
10 gr renewed daily ..	8 days.	..	In large bottle Closed top.
	21		In large bottle Open top.
Plaster-of Paris + flour + sugar	+100 hrs		Water-supply in separate dish
Oxalic acid + potato + sugar	+100		—
Lyons' powder + potato	+100		—

Advertised remedies. In appearance and action much like the pastes immediately preceding Serum phosphoratum (Martindale) 10% is apparently a stable preparation

Commenting on the last table the tolerance of the cockroach to arsenic is remarkable and in any case its dangerous character unfits it for general use

The action of the phosphorised poisons was tested more fully as there seems to be reliable evidence that it has been found effective But the statement which has been made that "after eating the paste the cockroach retires to its hole and dies" requires modification If phosphorus kills at all it does so through the respiratory system Strong fumes kill fairly quickly, but death is delayed the greater the dilution, until, with a good air supply, practically no toxic effect is produced One specimen lived 32 days in an open bottle in close contact with a fresh sample of phosphorus paste renewed daily Hence if the cockroach always disappears when the poison is used as directed, some other explanation is required And it would seem to be that it is the fumes which drive the cockroach away It must therefore be exceedingly sensitive to such respiratory irritants, and this fact is of importance on other grounds The experiments show that a number of bodies kill the cockroach through the respiration very quickly This is its most vulnerable point Assuming that the bodies which kill most quickly are also the most irritant, it is reasonable to suppose that they will also drive the cockroach away most quickly The problem therefore seems to resolve itself into selecting from the respiratory poisons those which are most irritant to the insect, and at the same time least harmful to man Of these substances bromine is the most active, but it disperses very quickly, and would therefore require the rooms to be sealed Bromine is expensive At pre war rates it would probably cost about £2 to act on 1000 cubic feet Sulphur dioxide (from burning sulphur) is also very effective and is cheap In this case, too, the rooms must be sealed These are probably the best methods for use on ships, where destruction must be aimed at, as the cockroach cannot be simply driven away For domestic use the best available and most practical respiratory irritants are wood naphtha, one of the aromatic oils, or creosote It is important to remember that a prolonged application, renewed daily (or nightly), is necessary If only used once or twice the cockroach might regard the vapour as a passing nuisance and return when its influence was spent Two or three weeks are required to produce any lasting effect The paraffin derivatives, though very effective, are too dangerous for common use on account of their inflammability

Many of the aromatic oils are available The oil of citronella, used by sailors to keep mosquitoes out of their cabins, and by travellers as a preventive, is useful Tested by the cockroach, the oils of thyme, orange, rosemary, and eucalyptus are more active, and would probably also be more effective with the mosquito As these oils act by their odour, it would probably be better to sprinkle them upon the clothing, as more could thus be used and the effect last longer These oils form the basis of many scents, which are therefore more or less anti parasitic It is interesting to recall that camphor and lavender have been used for generations to keep moths away from clothing The experiments indicate, also, that the direct paraffin derivatives are more toxic than those of the coal tar series In both series the toxicity increases to a maximum as the boiling point rises, until a point is reached, after which it declines as the boiling point rises still further Many of the dusting powders owe their efficacy to the volatile oil which they contain Several are more effective than the Dalmatian insect powder, the reputed basis of Keating's powder *Potassa sulphurata*, which gives off H_2S, soon becomes inert The best powder tried was sodium fluoride This is very effective and keeps well A mixture of equal parts of bleaching powder and boric acid also acts well and keeps well Although boric acid is useful, borax is useless The powder of veratrum album pulv is slightly active, veratrum nigrum useless In this series of experiments the insects were kept in direct contact with the powder, and if there was no effect in 100 hours the powder was considered useless

Summarising the results of the experiments as a whole, they seem to indicate that many of the substances which have been supposed to kill the cockroach have really acted by driving it away and so leading to its disappearance Such gregarious migrations have been observed but have hitherto been otherwise explained. For quick destruction stoving with bromine or sulphur dioxide is apparently best For domestic application the daily use of creosote, wood naphtha, or the oil of rosemary, eucalyptus, or citronella placed near the haunts of the cockroaches for two or three weeks should effectually disperse them Where these are inadmissible on account of their smell, odourless dusting powders may be used. Of these sodium fluoride was found to be the most effective It is also cheap and keeps indefinitely

These experiments may have some value as applied to insect pests The cockroach being abundant and of large size, it has been possible to use it as an "indicator" and to observe the results more accurately than would be possible with small insects Other things being equal, the same results should follow in the case of many other insect pests

Middleton Lancs

THE PROVISION OF MEALS FOR SOLDIERS' FAMILIES IN FRANCE

(BY OUR SPECIAL SANITARY COMMISSIONER.)

Paris May 1916

HOW to ensure a food supply sufficient to maintain the nation when the entire male population of military age is mobilised constitutes a problem of which we in England are only beginning to perceive the difficulties, and these moreover, have become apparent to us gradually When the war began we in no wise attempted to mobilise the nation Very few persons conceived that it would ever be necessary to do anything of the sort. If a small paid army of volunteers did not suffice we would pay more and secure a somewhat larger army It was thus that many besides the wiseacres talked, while those who were able to speak with more appreciation of the situation were condemned as pessimists To-day, however, we all realise that Great Britain and her colonies need an army like any great continental Power We have obtained it and as we have adopted the scale of payment which was fixed when competing with the labour market for volunteers, an unanticipated result follows—the poorer sections of our population were never so well off though the cost of provisions has doubled They were never so well clothed or so well fed as at the present time It is necessary, however to bear in mind that this is a state of affairs that cannot always continue Though our financial situation may be stronger than that of any other nation, we cannot bear such a burden indefinitely We must also contemplate the possibility that peace may not liberate us from the necessity of holding a huge army in readiness We shall then have the same struggle to pay our army of the future as the continental Powers have to pay their present armies If we have to support a large army after peace has been declared the question of feeding our population when a large proportion of the males are mobilised will come home to us it is to-day a matter of vital importance for our allies

Soldiers Supported by their Families

It is indeed extremely difficult for the inhabitants of these islands to realise the immense sacrifice made by the peoples of the continent. During a recent tour in France I organised with the approval of M Poincaré and aid of the French authorities, a series of 25 meetings in all parts of the country Such authorised representatives of British labour as Mr George H Roberts M P (Junior Lord of the Treasury), Mr John Hodge, M P, and Mr J A. Seddon a former President of the Trade Union Congress, accompanied me and we endeavoured to explain the extent and importance of the aid Britain gave in waging the war Of course we were able to make a good show The vast number of volunteers who flocked to our standards showed the nation to be capable of patriotic devotion But if the French soldiers are not volunteers it also must be borne in mind that they are not paid The French soldier used to receive ¼d per day, since the war this has been increased to 2½d or 25 centimes per day How is the family of a man who is receiving 2½d per day to be fed As a matter of fact it is not the soldier who keeps the family, but it is the family who keep the soldier Here then we have a tremendous difference between the paid British soldier with an allowance added to his pay for his wife and children and the Frenchman who to all intents and purposes serves his country gratuitously The 25 centimes now allowed at best only serves to reduce a little the money that every family sends to its fighting members at the front so that they may be able to buy postage stamps tobacco and occasionally some little luxuries But all families have not the means to do this and keep themselves as well and the problem presented is often found very difficult How are poor families to be kept alive when the bread winner has not only ceased to support them but expects to receive some aid from them?

The position has been anticipated and prepared for in France ever since 1871 The exigencies of national defence have largely contributed to develop the wonderful thrift of the people a quality that has enabled France to recover [illegible] from disasters that would have beaten down other nations Practically no Frenchman marries till he has accomplished his term of barrack life and military training During this period he has received his pocket money from his parents, and in marrying he prepares to send in his turn money to any sons whom he may have when it comes to their turn to serve After three years with the colours he is for 11 years in the Active Reserve and during the 21 days of annual training his wife and children practise running his business in his absence Then for seven years more he is in the Territorial Army and for yet another seven years in the Territorial Reserves Thus for 28 years of his life every Frenchman may have to abandon his business and leave his family without any resource for a certain period in the year During that period his family learn to take his place.

Separation Allowances and Moratorium for Rent

In the majority of cases the French families long warned as to what to expect had made provision to face the emergency when war broke out But this was obviously not possible among the worst-paid section of the labouring classes Also there was a quite large class that was not altogether without means to meet the exigencies of mobilisation but had not sufficient to face the entire expense For such people the moratorium on rent often sufficed, and it secured a roof over the heads of even the most desperate cases The wife and the children of the French soldier have no claim to a separation allowance, yet from the first it was felt that those who had failed to make provision in case of mobilisation could not be left to die of starvation Also, it is readily acknowledged that the badly paid sections of the working class could not be expected to make a sufficient, if any provision Then there was a considerable number of persons many of them single women who were entirely thrown out of employment by the war It was the general opinion that relief should indeed must, be given where genuine need could be proved The amount at first was fixed at a franc per day per adult and half a franc per child This has now been increased to 1 25 fr, or 1s per day for an adult, and 75 centimes or 7½d per day for a child As this relief comes from municipal funds and various other sources there is some variety in detail Thus outside Paris more relief in kind is given than within the walls of the capital However the great point of contrast with what prevails in England is that the wives and children of soldiers only get relief in cash when existence of distress is demonstrated and even then the sum allowed is very small

With the present high cost of provisions and even with the moratorium on rent 1s a day is not enough to live upon Also if at first the purchase of clothes could be deferred, now that the war is lasting two years and more obviously new clothes are needed Therefore other help is necessary To organise this help the trades unions and the Socialist Party took active steps in August 1914 With more than a hundred representatives in Parliament they were able to bring considerable pressure to bear on the Government and the Government very wisely authorised those who were in nearest touch with the poorer sections of the community to organise the distribution of the needed relief The folly of allowing families with only a few shillings per week to buy their food at retail prices and then cook it at home especially when coals cost from £3 to £4 a ton was evident The Socialist Party therefore and at once placed the whole of their organisation their local committees and their knowledge of each locality at the service of the State so as to provide cheap meals for the families of soldiers for refugees from Belgium the invaded provinces of France and for those who had been thrown out of employment through the war

Organising Meals for 3½d

It was soon ascertained that on an average a meal cost in raw material if bought at wholesale prices and without counting fuel labour or rent of premises 30 centimes or 3d But of late the rise in prices has increased the cost to 35 centimes Empty premises were found such as abandoned pleasure booths as in the gardens of the [illegible] de Chaumont deserted cinematograph halls or [illegible] and shops Then voluntary labour was gladly offered and municipalities and influential personages [illegible] fuel [illegible] not for nothing nevertheless at a price [illegible] But who was to pay the 3d [illegible] its market value [illegible] 3½d As this is no a question of rendering paupers [illegible] the contrary of helping some of the worthiest members of the population who were only suffering because the [illegible] male members of their families were fighting for their country, and as further these people, though very poor, were nevertheless receiving at least a small allowance it was thought only right and calculated to preserve their sense of self respect to call upon them to contribute to the cost. Therefore they were charged 1*d* per meal. The rest of the money comes from various sources, the municipal funds and the Secours National being the principal. The latter organisation is not unlike our Prince of Wales's Fund and it now gives 1½*d* per meal served. Since August 17th, 1914 to March 31st 1916 the Secours National has handed over to the special fund administered by the General Confederation of Labour £181,768 for the provision of meals. There are other special funds notably a fund to give meals to families of the professional classes and to artists who are in distress through the war and to women about to become mothers.

Penny Soup

There is in Paris an institution called Les Fourneaux Economiques founded long before the war by the sisters of St Vincent de Paul. These kitchens are established in various parts of Paris and they sell half a litre of soup for 1*d*. No one at home especially if we count the cost of fuel, could make such good and nutritious soup for so small a sum. This institution, assisted by the Secours National has had its scope of action greatly increased so as to help to meet the emergencies created by the war. As meat soup takes several hours to make during which time terribly expensive fuel is consumed it is a great saving to be able to purchase soup already made at so small a price. Indeed, though sold at 1*d* the half litre it actually costs in raw material not 10 but 12 centimes. It is generally made of a big piece of lard some bones a little meat and, of course a considerable variety of vegetables with a dash of garlic and some laurel leaf and thyme to flavour. One excellent way to both colour and heighten the flavour of the soup is to broil the bones slightly before putting them into the cauldron but I would not venture to say that this is done everywhere. Of course these advantages are not offered to the public at large otherwise many persons who can quite well afford to feed themselves, if unscrupulous might apply. On the other hand an applicant is never refused on first application, even if he has no card, but the name and address are demanded and an inquiry is made. If the result is satisfactory a card is given otherwise the applicant cannot return. As a matter of fact people rarely go to these places unless they are in great difficulties, and then help is very readily given. It may be said however, that this distribution of soup is not very much encouraged. It is felt that if people are so poor as to need soup it would be very much better to give them a full meal.

Fortunately I am able to record that there is a very great reduction of the former widespread poverty and distress that prevailed at the commencement of the war in Paris and other industrial centres. Thus in the Montmartre district of Paris I found that now barely more than 600 portions of soup are disposed of in the course of a day. In the past winter there was a demand for at least 2000 half litres of soup in the 24 hours. This shows a great increase in employment, civil and military.

Catering and Cooking

There are two or three establishments in each of the 20 arrondissements of Paris where these meals are bought and cooked. Some of these I was able to inspect and my first visit was to Mme Faure who has established herself in an abandoned cinematograph hall in the rue de Torcy in the populous district of La Chapelle. Here I found a number of women busily engaged sewing. They were volunteers striving to earn the £4 per month charged as rent for the premises. Further Madame Faure gleefully explained how by the ingenious utilisation of high influences and protection she had managed to get some coal at £2 a ton, for which most people paid £3 10*s* or £4 the ton. Then she had to go to the Central Market very early in the morning and was thus able to buy meat and vegetables some 25 per cent. cheaper than from local tradesmen. But she had not attempted to roast any of the meat that was far and away too extravagant. It was cheaper to make stews especially of mutton and veal. The beef first used for soup was served later with onion sauce. The onions were fried in pork and in beef fat. The sauce thickened by flour sprinkled and made red in the boiling fat, then diluted with a very little water and a dash of vinegar. This constitutes a *bœuf miroton*. Sometimes the sauce is diluted not with water but with a little red wine, then we have a *bœuf bourguignon*. The meal consists of soup, meat, vegetables, and bread, and a rich appetising sauce ensures the eating of a large quantity of bread. If the allowance of meat is not large the diner can eat enough bread and sauce to constitute a sufficiently nutritious meal. Vegetables are generally served as a separate course, and lentils and rice are the least appreciated, but this, again, depends on the art with which they are cooked. At the rue de Torcy some 1800 meals of this description are served per day, costing in raw material, as already stated, 35 centimes each. The service is done by soldiers wives who are members of the Socialist party, and they hope to thus give an object-lesson in collectivist enterprise.

At the Buttes de Chaumont the concert and dancing hall of a pleasure-garden had been converted into an eating place and an outside shanty into a kitchen. Some potatoes had been boiled in beef and bone stock and flavoured with onions, garlic, and fine herbs, notably with chervil. They were appetising. Otherwise I was not favourably impressed, the arrangements were rough and the portions of meat given perhaps too small. Of course, the meals differ according to the accommodation secured and the skill of the cooks, and the knowledge and ability of those who purchase the provisions. At first the discrepancies were very great, most of the helpers having no experience whatsoever. But with the quick adaptability of the French character, those who did not know soon learnt. Those who did not manage very well found out how to imitate those who were more successful. Thus to-day though there are still considerable differences a greater uniformity nevertheless prevails.

By far and away the best place I visited was in the rue de la Crimée. But perhaps a comparison is hardly fair, for these are well aired, extensive premises built shortly before the war for a large, popular restaurant. There are modern kitcheners, a hot plunge bath for the rapid washing of plates well trained assistants, and a professional chef to direct and manage. Here they ventured on roasts and on the day of my visit there was veal beautifully roasted with brown and golden tints that could not but provoke the appetite. The bones from which this veal had been cut were broiled by exposure to a brisk fire, then boiled in water. The stock thus obtained was added to the lard and the fine herbs in which haricot beans are cooked. Thus tastily prepared, the haricot beans constitute a substantial and agreeable adjunct to the meat. A Belgian refugee makes at this centre excellent sausages that are sometimes preferred to meat. In the evening a lighter meal is given, consisting first of vegetable soup in which, however, a considerable quantity of animal fat or butter is introduced, then some cheese or fruit and a glass of wine or cider. Wine is becoming rare because last year's vintage was below the average and the greater part of the cheap wines are bought up for the army. Nevertheless it was satisfactory to note that a certain number of those who were dining were able to bring a little wine with them. They are not allowed to bring a large quantity, indeed, if they can afford large quantities then they would not be entitled to these cheap meals.

None Need Starve

Altogether it is a great satisfaction to know that, notwithstanding the mobilisation of the entire available male population no one need starve in Paris. Of course the war has not interfered with the free feeding of the children attending the elementary schools. On the contrary, this has been done with even greater care than usual. And now that adults can get a full meal for 1*d* it does not seem as if there should be any actual suffering from hunger even though soldiers are not paid and there is no separation allowance for their wives and children unless they can prove actual distress.

SOCIETY OF MEDICAL OFFICERS OF HEALTH SCHOOL MEDICAL SERVICE GROUP.—The annual meeting of the School Medical Service Group of the Society of Medical Officers of Health will be held on Saturday, June 10th, at 3 P.M. at 1 Upper Montague-street Russell square, London, W.C. Although many school medical officers have already accepted commissions, while others are doing extra duties it is hoped that the meeting will be well attended, as the relation of the group to the parent society and other bodies will be considered, reports received, and officers elected.

A MONTHLY RECORD OF ATMOSPHERIC POLLUTION.

THE returns in many instances have not been forthcoming, but we publish in one table a summary of the reports for three months—viz., November and December, 1915, and January, 1916—instead of for one month as heretofore. A large number of stations have discontinued making observations owing to the reduction of staff. There are no returns from Manchester stations at all, while in the cases of Kingston upon Hull, Leicester, Ravenscourt Park, and Wandsworth Common (two London stations) the records for November were lost owing to the breaking of the bottles by frost. It is hoped that the omissions due to shortage of staff will be made good when normal times return. The personnel of public health authorities concerned in the supervision of these examinations and of the analytical work involved remains the same as published in previous tables.

COMMITTEE FOR THE INVESTIGATION OF ATMOSPHERIC POLLUTION.

Summary of Reports for the Months ending November and December, 1915, and January, 1916.

Place	Rainfall in millimetres	Metric tons of deposit per square kilometre during month								
		Insoluble matter			Soluble matter		Total solids	Included in soluble matter		
		Tar	Carbonaceous other than tar	Ash	Loss on ignition	Ash		Sulphate as (SO_3)	Chlorine (Cl)	Ammonia (NH_3)
Month ending Nov. 30th, 1915.										
ENGLAND—										
Exeter	41	0·02	1·14	1·97	0·82	2·40	6·35	0·96	0·49	0·01
Liverpool	54	0·22	2·63	9·23	3·26	4·45	19·84	2·01	1·31	0·20
London—										
Meteorological Office	61	0·18	1·05	5·86	2·24	7·36	16·69	1·79	0·92	0·06
Embankment Gardens	62	0·42	5·20	9·31	2·04	6·04	23·01	3·00	0·75	0·12
Finsbury Park	79	0·61	3·60	16·84	1·21	5·71	27·97	2·30	0·28	0·04
Southwark Park	73	0·09	2·83	5·49	0·93	4·44	13·78	2·03	0·41	0·08
Victoria Park	34	0·05	0·90	3·08	1·27	5·95	11·25	2·97	0·29	0·03
Golden Lane	59	0·11	4·81	8·80	3·29	4·47	21·48	2·90	0·65	0·21
Newcastle-on Tyne	41	0·20	3·93	6·59	1·23	2·95	14·90	1·46	0·61	0·14
York.	36	0·23	1·69	2·85	3·56	4·94	13·23	2·72	0·77	0·12
SCOTLAND—										
Coatbridge ..	25	0·04	1·09	2·21	0·93	1·74	6·06	1·02	0·11	0·09
Greenock	74	0·12	2·36	4·06	1·70	2·79	11·03	1·57	0·33	0·16
Leith	23	0·05	1·19	2·92	0·94	2·53	7·64	1·09	0·35	0·09
Month ending Dec. 31st, 1915.										
ENGLAND—										
Exeter	174	0·02	1·38	1·79	3·13	4·30	10·62	1·42	1·39	0·04
Kingston upon Hull	102	0·13	2·79	3·64	3·69	4·50	14·75	2·83	0 0	0·05
Leicester..	117	0·14	1·29	3·52	6·94	4·89	16·78	2·79	0·79	0·15
Liverpool	135	0·31	3·43	5·60	3·78	8·62	21·74	3·83	1·29	0·26
London—										
Meteorological Office	106	0·06	3·83	0·14	Nil	8·53	12·6	1·85	1·13	0·07
Embankment Gardens	118	0·25	3·90	7·32	1·70	8·91	22·08	4·60	1·09	0·10
Finsbury Park	121	0·10	1·43	3·31	0·82	4·27	9·95	2·47	0·56	0·05
Ravenscourt Park	109	0·07	0·94	2·58	1·13	4·35	9·07	2·19	0·35	0·0[illegible]
Southwark Park	117	0·20	3·09	6·55	1·54	9·10	20·49	2·70	0·87	0·12
Wandsworth Common ..	118	0·03	1·39	4·01	1·65	4·26	11·37	2·44	0·71	0·03
Victoria Park ..	81	0·04	1·06	3·51	1·29	6·07	11·97	2·84	0·43	0·02
Golden Lane	117	0·06	2·99	3·43	6·14	5·61	17·24	4·06	1·06	0·23
Newcastle-on Tyne	156	0·26	3·59	4·79	4·37	7·80	20·81	4·12	1·11	0·13
York. ..	121	0·24	1·52	2·34	5·07	6·03	15·21	3·48	0·85	0·21
SCOTLAND—										
Coatbridge	63	0·09	2·05	3·29	1·46	2·91	9·84	1·60	0·13	0·20
Greenock	109	0·11	2·91	4·36	2·12	4·49	13·93	2·73	0·85	0·25
Leith	80	0·06	1·54	3·15	3·52	3·12	11·75	2·21	0·57	0·3[illegible]
Month ending Jan. 31st, 1916.										
ENGLAND—										
Exeter ..	23	0·01	0·99	2·11	0·61	2·23	5·8[illegible]	0·52	0·[illegible]7	0·02
Kingston upon Hull	19	0·13	1·73	2·93	0·9[illegible]	2·23	7·9[illegible]	0·[illegible]1	0·37	0·0[illegible]
Leicester	23	0·20	2·12	2·57	0·93	2·57	8·[illegible]	1·20	0·3[illegible]	0·10
London—										
Meteorological Office ..	29	0·05	[illegible]11	2·37	1·17	3·[illegible]2	7·00	1·[illegible]	0·27	0·04
Embankment Gardens	42	0·15	2·54	[illegible]·59	3·2[illegible]	6·[illegible]4	17·[illegible]	3·2	1·[illegible]	0·1[illegible]
Finsbury Park	39	0·05	1·63	5·13	1·33	3·[illegible]	12·23	1·[illegible]	0·[illegible]	0·0[illegible]
Ravenscourt Park ..	39	0·05	1·07	3·15	0·[illegible]3	[illegible]	9·[illegible]1	2·[illegible]	0·17	0·06
Southwark Park	41	0·16	2·53	5·[illegible]	2·[illegible]5	[illegible]·11	15·71	2·[illegible]3	0·[illegible]3	0·0[illegible]
Wandsworth Common	23	—	0·35	1·13	0·57	[illegible]·13	4·[illegible]	1·[illegible]	0·3[illegible]	0·0[illegible]
Victoria Park ..	52	0·05	0·97	5·93	3·[illegible]	[illegible]	1[illegible]·17	3·77	0·[illegible]1	[illegible]
Golden Lane	29	0·07	2·35	3·[illegible]	1·[illegible]2	3·[illegible]1	10·[illegible]	1·[illegible]	0·7[illegible]	0·0[illegible]
Malvern ..	25	0·00	0·05	0·10	[illegible]·1	1·[illegible]	[illegible]·23	0·61	0·[illegible]	0·1[illegible]
Newcastle-upon Tyne	23	0·15	2·44	4·[illegible]	1·12	2·[illegible]2	1[illegible]	1·2[illegible]	0·22	[illegible]·[illegible]3
York ..	19	0·11	1·[illegible]9	2·[illegible]	1·13	1·[illegible]2	[illegible]	0·[illegible]	0·[illegible]2	[illegible]
SCOTLAND—										
Coatbridge ..	1[illegible]	0·11	2·1[illegible]	[illegible]1	[illegible]	[illegible]·1[illegible]	17·12	1·[illegible]	1[illegible]	[illegible]11
Greenock	13	0·1[illegible]	1·[illegible]	[illegible]	1	[illegible]	11·[illegible]	1	2[illegible]	[illegible]·1[illegible]
Leith ..	[illegible]	0·0[illegible]	1·[illegible]	3·12	1	2[illegible]	[illegible]3	1·[illegible]	[illegible]	[illegible]

Tar includes all matter insoluble in water but soluble in CS_2. Carbonaceous [illegible] includes all combustible matter [illegible] in water [illegible] in CS_2. Insoluble ash includes all earthy matter [illegible] fuel ash [illegible]. One metric ton per square kilometre is equivalent to [illegible] per acre (?) 2·56 English tons per square mile [illegible] one gramme per square metre (5) 1 millimetre of rainfall [illegible]

IRELAND

(FROM OUR OWN CORRESPONDENTS)

Petrol for Medical Practitioners

THE arrangement by which the military authorities granted permits for petrol consumption has been abandoned, and in some places, as in Belfast, the police now take charge The city is divided into areas, and the inconvenience is avoided of hundreds of people assembling each day in the military barrack-square. In Dublin restrictions no longer exist and it is hoped that they will be removed throughout Ireland as far as doctors are concerned. It is said there is no shortage of petrol.

The Death of Dr C E FitzGerald

I regret to announce the death, which took place on Saturday, May 27th of Dr Charles Edward FitzGerald, who was Surgeon Oculist to the King in Ireland and formerly President of the Royal College of Physicians of Ireland.

The Winter in Ireland

The weather in Ireland presented some marked and exceptional features in the past winter As in Great Britain January was exceptionally warm and dry, but it was followed by two severe months of persistent cold, with much rain in February and rain sleet, and frequent snowstorms in March. Sir John Moore, in a paper read before the Section of State Medicine of the Royal Academy of Medicine in Ireland, recently dealt at length with these climatic conditions and discussed the bearing of them upon the health of the community The rainfall in Dublin for the six months ending March 31st exceeded 21 inches being more than 7 inches in excess of the average. Of this 2 5 inches were accounted for in a tempestuous downpour lasting two days towards the middle of November The copious precipitation in March came with cold north-east wind and was largely in the form of hail and snow Besides the usual factors of distribution of atmospheric pressure and resulting prevalence of winds, Sir John Moore adduces the presence in the atmosphere of an undue quantity of matter in the form of dust chemical or otherwise. The harmful effect on human life of the raw cold of February and March was shown by an increased mortality from diseases of the respiratory system, and especially in Dublin by a high incidence of pneumonia In the first seven weeks of 1916 the registered deaths in Dublin from pneumonia numbered 70 In the second period of seven weeks 133 or an increase of 90 per cent. Comparing the same periods the increased mortality from respiratory affections in general was 108 per cent Attention has been called to the effect on health of the fierce storms of March and the early months of 1916 will long be remembered by many for their high incidence of respiratory diseases

The King Edward VII Memorial, Belfast

The final meeting of the executive committee which had charge of the erection of the magnificent memorial to King Edward VII at the Royal Victoria Hospital Belfast was held on May 24th in the City Hall Belfast. The object of the memorial is to provide an electrical department a department of vaccine therapy and one of physiological chemistry After payment of all accounts and setting aside a sum of £1057 for the purchase of further special scientific apparatus there remains a balance of £80 12*s* 4*d* When those who will have charge of the special departments return from military duty there is no doubt that the work carried on in the new buildings will be of the greatest public value

The Recent Rebellion The Treatment of the Prisoners

There have been complaints of the conditions under which these prisoners were confined prior to their deportation or release In addition to the rebels who surrendered or were captured in arms a large number of persons were arrested in the streets or houses on suspicion of complicity All the prisoners are stated to have been treated alike without distinction as to the charges which might be subsequently brought against them The complaints made by those who have since been released are that they were crowded in excessive numbers into ill ventilated rooms without furniture of any kind, that food was insufficient and irregular in distribution, and sanitary conveniences wanting The critics made no allowance for the fact that the military authorities, fresh to Dublin, had to deal suddenly with several thousands of prisoners whose custody was necessarily their first care Indeed, the troops themselves for some time were not better off than the prisoners. Matters have since been set right, though perhaps after unnecessary delay, but early last week the military authorities invited the press to visit the Richmond Barracks and inspect the satisfactory conditions under which the prisoners are confined.

Ulster Medical Society

At the annual meeting of the Ulster Medical Society held in the Medical Institute, Belfast, on May 25th, the following office-bearers were elected for session 1916-17 —President Mr R Campbell, Vice-Presidents, Professor W St Cl. Symmers and Mr H A J S Murphy (Lisburn), Members of Council, Mr H. Stevenson, Mr R J Johnstone, Mr W Burns, Mr T A Davidson, Dr F Coates, Dr F C Smyth, honorary treasurer, Dr V G L Fielden, honorary librarian, Dr W L Storey, honorary editorial secretary, Dr C G Lowry, and honorary secretary Mr S T Irwin

May 29th.

KING EDWARD'S HOSPITAL FUND FOR LONDON

THE annual meeting of the Governors and General Council of this Fund was held on May 24th at St James's Palace, when the SPEAKER of the House of Commons presided.

Lord REVELSTOKE, the honorary treasurer, in presenting the account of receipts and expenditure and the balance sheet for the year ending December, 1915, said that the income from investments was larger than ever before, this being primarily due to the receipt of a full year s income from the first instalments of the Wernher legacy Out of the whole of the revenue from the investments under the care of the Finance Committee, a revenue amounting to £97,000, the total loss to the income of the year through failure to pay interest or dividends since the war began amounted to less than £800 but notwithstanding this a sum of about £50 000 had still to be raised in order to maintain the distribution at last year s figures, without allowing for any increase in the needs of the hospitals Since the beginning of the year notification had been made of the munificent bequest of the residue of the estate of the late Dowager Lady Wilton, estimated at about £150 000, of which sum £100 000 had already been received on account

On the motion of the CHAIRMAN, seconded by Sir T VEZEY STRONG the adoption of the accounts was carried unanimously

Sir SAVILE CROSSLEY presented the draft report of the General Council which stated that the total receipts for the year 1915 were £226 779 19*s* 5*d* of which £12,949 17*s* 9*d* were contributions to capital and £213,830 1*s* 8*d* receipts on general account made up as follows annual subscriptions £25 724 16*s* 11*d*, donations, £5360 16*s* 3*d*, contribution from League of Mercy, £14 000, special donation from Sir Ernest Cassel (4½ per cent War Stock) £28 000, from the Lewis Estate, £34 121 8*s* 1*d*, other legacies, £4412 10*s* 7*d*, dividends and interest from investments £97,218 1*s* 9*d*, dividends and interest collected in 1915 but relating to 1914, £4792 8*s* 1*d*, from the trustees of the Bawden Fund, £200 The amount originally appropriated for distribution was £140,000, being the same amount as in 1914 Of this £133 500 were allocated to London hospitals and £6500 to consumption sanatoria and convalescent homes taking London patients These totals were increased by the supplementary grants in respect of Sir Ernest Cassel s gift to £168 000 £160 200 and £7800 to the two classes of institution respectively Of the £133 500 allocated by the Fund from its ordinary resources to the London hospitals £111,775 were granted in aid of general maintenance £5750 to the reduction of debts on maintenance account and £15 975 towards schemes of buildings or improvements, the supplementary grants following the same apportionment The £6500 distributed by the Convalescent Homes Committee (apart from the supplementary grants of £1300 War Stock) were allocated as follows £4560 to convalescent homes and £1940 to consumption sanatoriums The total sum distributed amongst hospitals, convalescent homes, and consumption sanatoriums during the last ten years (after deducting conditional grants to the extent of £7500 that have been allowed to lapse), was £1,484,750 Since the foundation of the Fund a total amount of £2 098 416 8*s* 5*d* had been distributed The first million had been passed in 1909 the thirteenth year of the Fund It had taken six years for the grants to reach the second million The average annual distribution for the whole period of 19 years had been £110 442 19*s* 4*d* During 1915 the amount spent on administration was £3205 16*s* 1*d* or £1 8*s* 3*d* per cent of the total amount received as compared with £3178 6*s* 5*d* or 12*s* per cent, the previous year The corresponding percentage for the whole period since the inauguration of the Fund had been £1 4*s* 7½*d*, and the average yearly outlay in this respect had been £2819 0*s* 7*d* His Majesty the King, Patron of the Fund, had been graciously pleased to continue his annual subscription of £1000 and Her Majesty Queen Mary, Her Majesty Queen Alexandra, His Royal Highness the Prince of Wales and many other members of the Royal Family, had also again honoured the Fund with subscriptions The list of contributors included annual subscriptions of £5000 from Mr Walter Morrison, £4000 from the Drapers Company £1000 from Lord Astor, and £1000 from the Merchant Taylors' Company, besides an anonymous donation of £1000 The Fund had also received annual subscriptions of £500 from the City Corporation from Lord Iveagh from Sir John R Ellerman, Bt, from Mr Robert Fleming, from Messrs Morgan, Grenfell and Co, and from Messrs N M Rothschild and Sons, and donations of the same amount from the Clothworkers' Company, and from "S D R S D" The League of Mercy had again contributed £14,000 The total amount received from the League of Mercy since its foundation in 1899 now amounted to £230,000, apart from the sums awarded by the League to institutions outside the area of the Fund's distribution In order to maintain the distribution on the same scale as that of the last two years, an annual sum of nearly £50 000 had to be raised from subscriptions, donations and legacies The total amount received from annual subscriptions and donations during 1915 (apart from the gift of Sir Ernest Cassel) showed as compared with 1914, a decrease of £162 8*s* 4*d* while the receipts from legacies (other than the Lewis and Harman bequests) were £24 083 18*s* 8*d* less than in the previous year, and were £27 482 6*s* 10*d* less than the average of the five years 1910–1914

The CHAIRMAN having formally moved the adoption of the report, the Earl of BESSBOROUGH seconded, and the motion was carried unanimously

Sir WILLIAM CHURCH (chairman of the Distribution Committee) moved the adoption of a report of that committee on the expenses of the Bland Sutton Institute of Pathology at the Middlesex Hospital The report recommended that the scheme of apportionment between hospital and medical school now submitted by the hospital should be accepted as regards the year 1915 as satisfying the condition attached to the grants made by the Fund in December last—namely that the expenditure should be allocated in the accounts for 1915 in accordance with a scheme of apportionment to be approved by the Fund This was seconded by Sir JOHN TWEEDY and carried *nem con*

In the absence of Dr Freshfield (chairman of the Convalescent Homes Committee) Sir WILLIAM H BENNETT moved the adoption of a report of that committee on the subject of a special application from the National Association's sanatorium at Benenden The report, which was seconded by the President of the Royal College of Surgeons of England (Sir W WATSON CHEYNE) and adopted recommended that the committee be empowered under certain circumstances to promise and if required to pay over an emergency grant of a limited amount

In the course of some remarks in reply to a vote of thanks the CHAIRMAN said that as the war continued the margin of eleemosynary funds available for the general charities of the country must shrink to a considerable extent There must be no disappointment if at the meeting next autumn or this time next year the Fund had to report a considerable shortage

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments have been notified —Fleet Surgeons T T Jeans to *Victory* P H Boyden and W G Thwaytes to *President* P H Bannister to *Falmouth* and J P H Greenhalgh to *Pembroke*, additional Staff Surgeons R Kennedy and N H Harris to *Pembroke* and B S Pol[illegible] to *Birmingham* Temporary Surgeons P W Carruthers to *Pembroke* and R P Ninnis to *Neptune*

ARMY MEDICAL SERVICE

Surgeon General Sir William Babtie, V C K C M G, C B to be a Director of Medical Services at the War Office

Colonel Roger Kirkpatrick, C M G, on completion of four years' service in his rank, is retained on the Active List

ROYAL ARMY MEDICAL CORPS

Lieutenant Colonel Charles T Blackwell is retained on the Active List

The undermentioned temporary Captains relinquish their commissions C E Murphy E A Evans, Sir Vincent Nash A Waugh, and N L Prichard

Temporary Captain H O'Callaghan relinquishes his commission on account of ill health

E D Pullon to be temporary Captain

Temporary Lieutenants to be Temporary Captains P J Maguire, W F Dunlop, G J Adams, J F Carruthers A S Seabrooke, M Kirton, J O Thomas J N Wheeler, C E Basball, A P Yonge, R T Cooke D M Callender, G A Jelly, R W T Clampett, J A R Lee S J A Beale, F J Dunne G I Moriarty G H Wood, C Armstrong Dash, I Macfarlane, A Thomson, R N Weekes C M Willmott, C Checchi, A J Trinca R W Ryan A S Gilchrist H A Hancock J W N Roberts F W Stone C C Finlator, H S Davidson, W D Perry, W Penberthy, J Boyd, A T Marshall, B W Mudd, R C Phelps, J H Bogan, D F O'Kelly, C Gibson F S Cuthbert, J M McKenzie J M Mackay D McD McIntyre, T Ruddock West, J H N F Savy, H Adams, C G Shearer A G B Duncan, J Ross, W F Stevenson T H Scott T F Judson, A St Johnston, T B Jobson J H Jones, G D Hindley, J H. E Davis, A R Roche, J R Dixon J B Woodrow, A. L Jackson, E C Abraham W Rafile, C R Denny G T MacLean G A Bird D Flech, C T Hilton W R Reith, J S Bookless, C F Harford S A Telfer, A C Renwick, G L Neil, G I Lockyer, J Kean, R T Herron, F F Frazer, A Crawford R H G Weston C C Cragg, A Richmond, G McMullan A Mack Clark, R F Yencken, A J C Tingey J R Pate C I Price W S Nason G S Miller R J Leslie J H Hebb C Coventry R T Cox, J Howe W R Main, A H Mountcastle, W F G Scott T G Williams O Heath J McKenzie H D Field R H Cox C Crerar S D Adam W Wallace J Ash J H. Saunders T H Phillips W R Watt R D Brinton G D Kerr F P Carey G S Warr J F Wolfe S Wyborn R M Stewart H Spinks T F B Reid F W Rowland C C Harris M D Eder R Park E W Blake B Pickering H H Proudfoot J T Macnamara A G K Ledger, A Randle R A M Macleod B H Shaw M A McKeever J H Hart, N Devereux J H Drew J G Murray W G R Macauley, G M Bluett R T Raine H Harvey W A Robertson D L Hutton, W J Harris J B Dalton C M Brophy, C F Lenn J G Sworder, A D Blakeley T M Crawford A L Palliologus R Hughes H P D A Benson M Ashley W S Stalker, C Loddiges W M S Robinson, A F Wright A Adams R T Russell G Holroyde W Russell H J Griffiths R W Long F T Larkham A I Quine C R H Crawford J C Pratt R J Bonis H M Agnew A W Forrest J B Paul J D Batt J I Broughton J L Waller J J Robertson H H Carleton F G Rawlinson I J Morton I A C Swainson C Bennett J W Jones R P Lirrie J W McCagie G S Douglas I H Walker J Coutts A J McCreadie G Miller P MacN Marshall C L G Powell I Muirhead H M Brown A J Hickey R K Duncan J T Roberts A W D Coventon F G D Lineo John A [illegible] A F Mayer R F Horkins R L Shields J M MacPhail A A Cooper C H Newton T J Dillon T [illegible] H C Thorp G W Thompson J D MacKinnon A H Blake R J Batty W J Dunlop J C Turnbull G B Simpson W Harmens C B Pearson B Jones I Lane D McK Livingstone F B G Stableford M [illegible] J M Morrison H J [illegible] G [illegible] J [illegible] Sutherland M H Paterson G C Anglin [illegible] L M Dawson J I Knox O J [illegible] H [illegible] T O Hinton C G Sutherland [illegible] H Moberley O Shields H Yellowlees A T [illegible] King J M Elliot J M Campbell J [illegible] Hamilton J M Young L [illegible] H [illegible] S Waddell J D Marshall [illegible] A J Graham [illegible] Gordon G H Keene [illegible] Hammond W [illegible]

Anderson, C Reidy, W P Cooney, J Dixon, A C B McMurtrie H. T Newling H. E Collier H L Attwater, T Jays J E L A. Turnley, G Stoddart, S J Rowntree, J A W Watts, A Y Craig, G W R Rudkin, and A. Ferguson

The undermentioned temporary Lieutenants relinquish their commissions —F G M Simpson, J Campbell, E A. Bullmore T E Dobbs T H. Gandy, T A. Collinson, N T Bond F J Blackley, G C Stewart A E Stenning, J C Martin, T Wright, G H. Culverwell J Brunton H L Cumming A. G J Thompson J H Heddle, S F Smith G F C Walker, W Magner T Clifford M G McElligott, D V O Connor, S J Wareham, D O Twining, F S Beachcroft R Harrison J M. Bennion, F Jubb J Bowes, A. S Webley W E Cooper, J Campbell, and L D Hayes on account of ill health

The undermentioned temporary Honorary Lieutenants to be temporary Lieutenants —H Lewis A. Wilson, A Sutherland, P R O'R Phillips, L Gameson, N G Mottram and H M Moran

Canadian Army Medical Corps Lieutenants to be temporary Captains H G Wood A. J Martin H C Moses, and D G Turnbull To be temporary Lieutenants L E Bolster, W G Shaw, W A. Cardwell D P Lucey, R C B Briscoe, F R Wilson G H Fraser, P A. Rostant, J Dickson, C Harris, H E H. Tracey, G W Ronaldson, G Stivala Aspinall, R J Arundel, A. R C Doorley, R M. de Mowbray E L K. Sargent D J Rowntree, A E A. Carver H. F B Bodvel Roberts, J M Johnstone, J F Penman C T Darwent, D Corry, S J W Donald, J S Rowlands, W MacAdam, T G Evans, D J Harries S A Burn V A. Crinks H. R Helsby, A. K Henry, J Kevins A W Owen E H Price, D Ranker T L Jones, W Reynolds S B Turner, R L Mack Wallis H. R Hodgkinson J Cairns W G Marsden, G N Brandon J M W Morison W Turner F Shannon J Elliot, E H Montgomery, H. M. Drake, G Arthur D L Dakeyne, J J Moriarty C A. R McCay C W Von Bergen J A. Hope, H F Ferguson J McGarrity, W Fraser, R W Miller, F D L. Greene, E J B Moynihan D Gaston H H. Crickitt, A. Smirthwaite A. Campbell R H Balfour Barrow G W Doran W T Evans H M Gray, D M Smith J Manuel, H. Joslen P L Blaber W Spiteri, C T Cheatle A. T Thurston, H S Raper, D A. Farquharson, J A. H Vanderwert, and K. Elmes. To be temporary Honorary Lieutenants G Moulson, H K. Graham Hodgson, E G Howell N N Hayson, K D Atteridge, L W Evans, P S Clarke H L Hughes and A H Clarke

SPECIAL RESERVE OF OFFICERS

Royal Army Medical Corps

Lieutenant (on probation) D H Paterson is confirmed in his rank

TERRITORIAL FORCE.

Royal Army Medical Corps

London Field Ambulance Captain J M Taylor M.B, from a Mounted Brigade Field Ambulance and M. T G Clegg (late Lieutenant (temporary Captain) London Brigade Royal Field Artillery) to be Captain

Welsh Casualty Clearing Station Captain A. C Devereux, from Welsh Field Ambulance to be Captain

Southern General Hospital Lieutenants T F Stafford and S E Whitnall to be Captain

South Midland Mounted Brigade Field Ambulance Captain E Whichello from a Casualty Clearing Station to be Captain

South Western Mounted Brigade Field Ambulance G L Findlay to be Lieutenant

South Midland Field Ambulance Captain W V Wood, from a Mounted Brigade Field Ambulance to be Captain

London Mounted Brigade Field Ambulance Captain (temporary Major) W P Thomas relinquishes his temporary rank on ceasing to command a Field Ambulance

Attached to Units other than Medical Units—Surgeon Major H Stallard from Notts and Derby Regiment to be Major and Surgeon Major A. C Turner from West Riding Division Royal Engineers to be Major Captain A W W Swettenham relinquishes his commission on account of ill health Captain (temporary Major) H F Everett relinquishes his temporary rank on ceasing to command a Field Ambulance Allen Iredale to be Lieutenant.

Supernumerary for service with the Officers Training Corps—Lieutenant (temporary Captain) G A. Williamson

VOLUNTEER FORCE

Liverpool Regiment Surgeon Major W Richardson resigns his commission with permission to retain his rank and to wear the prescribed uniform

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS

In continuation of a paper published in the November issue of the *Journal of the Royal Army Medical Corps* Major C J Coppinger and Captain H G Gibson record in the May number a series of experiments in the inoculation of man with mixed vaccines containing bacillus typhosus, B paratyphosus A, and B paratyphosus B, with regard to the reaction produced and the antibody formation The results of the experiments seem to point to the fact that the B paratyphosus A content of the vaccine may not achieve its object to the same extent as that of B typhosus and B paratyphosus B A report on "Trench Foot" by Captain W Waller and Lieutenant E K Rideal advocates as a result of some interesting experiments the use of a salted ointment for protecting the foot against water, and Mr Scot Skirving, of Sydney, at present surgeon to the Queen Alexandra Military Hospital, Millbank, discusses the question of reamputations in the case of non healing stumps with protrusion of bone, many cases of which have occurred among the repatriated prisoners from Germany Mr J F Colyer, surgeon to the Royal Dental Hospital, describes the methods adopted and the experience gained in the treatment of gunshot injuries of the jaws in the Croydon War Hospital, of which he is honorary consulting dental surgeon

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 95 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 8135 births and 4164 deaths were registered during the week ended Saturday, May 27th The annual rate of mortality in these towns which had declined from 17·0 to 14 1 per 1000 in the four preceding weeks, further fell in the week under notice to 12·5 per 1000 of their aggregate civil population estimated at 17 312,295 persons for the year 1915 During the first eight weeks of the current quarter the mean annual death rate in these towns averaged 15 6, against 15 3 per 1000 in London During the week the death rate ranged from 3 7 in Wimbledon, 4 3 in Wallasey and in Wakefield, 4 6 in Gillingham 5·0 in Swindon, and 6·0 in Enfield, to 19 2 in St Helens 20·5 in Middlesbrough, 20·7 in Gateshead, 21 6 in Stockton-on Tees, and 21 7 in Bournemouth

The 4164 deaths from all causes were 509 fewer than the number in the previous week, and included 326 which were referred to the principal epidemic diseases, against numbers declining from 431 to 352 in the four preceding weeks Of these 326 deaths, 131 resulted from whooping-cough, 85 from measles, 53 from infantile diarrhœal diseases, 34 from diphtheria 16 from scarlet fever, and 7 from enteric fever, but not one from small pox. The annual death-rate from these diseases was equal to 1·0 against 1 1 per 1000 in each of the three preceding weeks The deaths attributed to whooping-cough, which had been 139 125 and 128 in the three preceding weeks, rose to 131, and caused the highest annual death-rates of 1 1 in West Ham, 1 3 in Manchester 1 7 in Walsall 2 2 in Oldham and 2 5 in Sunderland The deaths referred to measles which had been 120 124 and 103 in the three preceding weeks, further fell to 85, and included 13 in London, 11 in Liverpool 9 in Stoke-on Trent and 8 each in Manchester and Sheffield The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 59 48 and 62 in the three preceding weeks fell to 53 of which 13 were registered in London 6 in Liverpool, 4 each in St Helens and Manchester and 3 in Bristol The deaths attributed to diphtheria which had declined from 65 to 38 in the six preceding weeks, further fell to 34, and included 6 in London and 3 each in Norwich and Middlesbrough The deaths referred to scarlet fever, which had been 17 18, and 15 in the three preceding weeks numbered 16, 3 deaths were recorded in London and 2 each in Stoke-on Trent Birmingham, and Sheffield The 7 fatal cases of enteric fever, of which 2 occurred in Manchester were equal to the average in the earlier weeks of the quarter

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital which had steadily declined from 1778 to 1444 in the seven preceding weeks further fell to 1398 on Saturday last, 161 new cases were admitted during the week, against 153 167, and 139 in the three preceding weeks These hospitals also contained on Saturday last 1248 cases of diphtheria 218 of whooping-cough 195 of measles 35 of enteric fever, and 1 of small pox. The 956 deaths from all causes in London were 132 fewer than in the previous week and corresponded to an annual death rate of 11 7 per 1000 The deaths referred to diseases of the respiratory system, which had declined from 405 to 160 in the ten preceding weeks further fell to 128 in the week under notice

Of the 4164 deaths from all causes in the 95 towns, 176 resulted from violence 323 were the subject of coroners' inquests and 1297 occurred in public institutions The causes of 43 or 1·0 per cent of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Leeds, Bristol, West Ham, Nottingham Leicester, and in 66 other smaller towns Of the 43 uncertified causes, 8 were registered in Liverpool 7 in Birmingham, and 2 each in London, Portsmouth, Stoke-on Trent, Coventry, and *Bootle*

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2,372,000 persons at the middle of this year, 1156 births and 653 deaths were registered during the week ended Saturday, May 27th The annual rate of mortality in these towns, which had been 15 4, 14 8, and 15·0 per 1000 in the three preceding weeks, fell to 14 4 per 1000 in the week under notice During the first eight weeks of the current quarter the mean annual death rate in these towns averaged 16 6, against 15 6 per 1000 in the large English towns Among the several towns the death rate during the week ranged from 4 6 in Clydebank, 8 9 in Kirkcaldy, and 11 1 in Motherwell, to 18 4 in Paisley, 18 7 in Perth, and 21 4 in Hamilton

The 653 deaths from all causes were 28 fewer than the number in the previous week, and included 66 which were referred to the principal epidemic diseases against 61 and 53 in the two preceding weeks Of these 66 deaths, 34 resulted from measles, 10 each from diphtheria and infantile diarrhœal diseases, 9 from whooping-cough, and 3 from scarlet fever, but not one from enteric fever or from small pox The annual death rate from these diseases was equal to 1 5, against 1·0 per 1000 in the large English towns The deaths attributed to measles, which had been 27, 32, and 25 in the three preceding weeks, rose to 34, and included 22 in Glasgow, 3 each in Dundee and Leith, and 2 in Paisley The deaths referred to diphtheria, which had been 2, 5, and 3 in the three preceding weeks, rose to 10, of which 6 occurred in Glasgow The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 12, 4, and 4 in the three preceding weeks, rose to 10, and included 4 in Glasgow, and 2 each in Aberdeen and Clydebank The deaths attributed to whooping-cough, which had been 11, 11, and 17 in the three preceding weeks fell to 9, of which 5 were recorded in Glasgow The 3 fatal cases of scarlet fever were 5 below the average in the earlier weeks of the quarter, and comprised 2 in Glasgow and 1 in Paisley

The deaths referred to diseases of the respiratory system, which had been 103, 103, and 106 in the three preceding weeks, fell to 101 in the week under notice, and were 40 below the number registered in the corresponding week of last year The deaths from violence numbered 18, against 31 and 19 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the registration area of Dublin 236 births and 155 deaths were registered during the week ended Saturday, May 27th The deaths corresponded to an annual rate of 19 8 per 1000, or excluding 12 deaths resulting from the recent disturbances to 18 3, against 11 7 in London and 14 8 per 1000 in Glasgow

Of the 155 deaths of all ages 21 related to infants under 1 year and 36 to persons aged 65 years and upwards The deaths referred to the principal epidemic diseases numbered 7, against 14 in the preceding week and included 2 each from whooping-cough and infantile diarrhœa, and 1 each from measles, scarlet fever, and diphtheria

The causes of 12 deaths were uncertified while 4 others were the subject of coroners' inquests, 61 deaths occurred in public institutions

During the same period 192 births and 123 deaths were registered in the city of Belfast The deaths were equal to an annual rate of 16 6 or 0 1 per 1000 below that recorded in the previous week, and included 13 of infants under 1 year and 24 of persons aged 65 years and upwards The deaths from the principal epidemic diseases numbered 8 of which 3 were referred to measles 2 each to whooping cough and diphtheria, and 1 to infantile diarrhœa

The causes of 4 deaths were uncertified 3 others were the subject of coroners' inquests while 23 occurred in public institutions

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MEMORIAL TO THE LATE FREDERICK LAWRANCE, M R C S L S A—A memorial to Mr Frederick Lawrance whose death in his eighty fifth year occurred on May 1st, 1915 and was recorded in our obituary columns was dedicated by the Bishop of London on May 21st at a service in St Peter s Church Hammersmith The memorial consists of a chime of bells and of a marble tablet with a medallion portrait commemorating an attendance of more than 50 years at the church and a professional activity in the district the same long period The memorial was subscribed by friends and patients of the deceased in supplying the bells they fulfilled his cherished desire

Obituary.

SIR JAMES FREDERIC GOODHART, BART M D LL D ABERD F R C P LOND,

CONSULTING PHYSICIAN TO GUY'S HOSPITAL AND THE EVELINA HOSPITAL FOR CHILDREN

WE regret to announce the death of Sir James Frederi Goodhart, consulting physician to Guy's Hospital, which occurred on Sunday last, May 28th, at his house in Portland place, in the seventy first year of his age

Sir James Goodhart was born in London and received his medical education at Guy's Hospital, taking the qualification of the English Royal Colleges in 1868 In 1869 at the opening of the Evelina Hospital for Children he was appointed house surgeon, and later, having filled the usual residential posts at Guy s Hospital, he proceeded to the University of Aberdeen and graduated as M B, C M with special honours, proceeding to the Doctorate of the University in 1873 In 1875 he became a Member of the Royal College of Physicians of London and pathologist to Guy s Hospital, being also appointed assistant physician to the Evelina Hospital In 1877 he was appointed assistant physician to Guy's Hospital, being elected a Fellow of the Royal College of Physicians of London three years later Among his teachers were Cock, Hilton, Habershon, Wilks, Pavy, and Bryant, and owing to his early success all of these now became his colleagues, together with Dr Frederick Taylor, Pye-Smith, Howse, Mr Golding Bird, and Mr Jacobson. He was already physician to the Evelina Hospital fo Children as well as medical adviser to several public institutions when he was elected upon the staff of Guy s Hospital so that it will be seen that Goodhart planted his foot firmly on the professional ladder while quite a young man Indeed the story of his professional life was one of continued success his skill in diagnosis, his resourcefulness in treatment and his candid attitude towards patients and professional colleagues alike proving recommendations to a very large circle of patients A series of untimely deaths among his seniors helped to open the way for him to a position which he richly deserved, though he might not have so promptly obtained it. For many years he enjoyed a very large consulting practice without being connected in the minds of the public with any one particular specialty His clinical work, indeed, ranged over a very wide field He was first known for his connexion with the Evelina Hospital as an authority on the diseases of children His next work to attract attention was pathological and in connexion with the liver and spleen He wrote, also, largely on respiratory and renal conditions while his lectures delivered before the Harveian Society on Common Neuroses enjoyed a wide circulation in book form The lectures were published in full in THE LANCET and appeared practically unaltered in the volume where the strong good sense of their inspiration and the terse and vigorous language employed secured for their author instant popularity And it may be said that in all the various departments of medicine in which he worked he displayed the same qualities of thoroughness shrewdness, originality, and when it was appropriate considerable humour

At the Royal College of Physicians of London he was Bradshaw lecturer in 1885 and Harveian orator in 1912 and the lectures of the man of 40 resemble the oration delivered 27 years later by revealing the same broad but keen intellect The circumstances under which it fell to Goodhart s lot to deliver the Bradshaw lecture were peculiar He was discharging the duty of his colleague the late Dr F A Mahomed whose medical career was prematurely terminated in the previous autumn after appointment as Bradshaw lecturer and Goodhart selected for his subject Morbid Arterial Tension which happily embraced some of the best known work of Mahomed He dealt with it from a widely philosophical view but showed himself fortified with facts gained by a wide experience in the post mortem room of Guy s Hospital so that he was able to bring into clear relief the essential nature of the morbid processes The lecture teemed with happy and homely illustrations his language was pure and scholarly and Goodhart s reputation was established among the leaders of his profession as a thinker teacher and practitioner His Harveian oration delivered in 1912 had the eloquence and raciness that during the years which had elapsed he had taught the medical profession to expect from him in his public utterances The oration was a summary of the triumphs of pathology for the past 40 years, and the orator showed that as the necessary sequence of triumphs we must have modified valuations and even the disappearance from notice of things which throughout a whole previous decade might have appeared to be of the utmost importance The rapid advance of pharmacology, resulting in the output of synthetic drugs, has enabled the scientific medical man to correlate with some exactness physiological action with structure, and Goodhart showed that the change of standpoint had been due almost entirely to the fact that biological science, of which medicine is a part, now follows the methods of physical science directly questioning nature by experiment The oration showed in a remarkable manner the mind of a busy man able, while living the routine of a successful practitioner, to appreciate the relations of his particular work to science generally, and to assimilate the lessons of modern research

His literary output was not very great considering his prominent professional position but his contributions to the medical journals were fairly numerous and always very good In addition to his book Common Neuroses " he wrote the " Diseases of Children in collaboration with Dr G F Still, which remains in its tenth edition a standard work and he was the author of the articles on influenza and asthma in Allbutt and Rolleston's ' System of Medicine

He became full physician to Guy's Hospital in 1887, being appointed consulting physician in 1899 in which year the University of Aberdeen gave him the honorary LL D In 1911 he was created a baronet

He married in 1879 Emma daughter of Mr William Bennett of Ashgrove who died last year, and is succeeded in the baronetcy by the elder of his two sons, Mr Ernest Frederic Goodhart who is now acting as the honorary secretary to Princess Mary s Sailors and Soldiers Fund

SIR JAMES FREDERIC GOODHART BART , M D

[*Reproduced from a photograph by Messrs Russell & Sons*

A former pupil and colleague writes —

The death of Sir James Goodhart will bring to a veritable host of professional friends a keen sense of personal loss That so busy a practitioner, who throughout his life scarcely ever allowed himself any social relaxations, should have attracted and held such an army of devoted friends can only be explained by his strikingly sympathetic personality Large numbers of medical practitioners who had for Goodhart the warmest affection have never seen him or spoken to him except in formal consultations over their patients The personal magnetism which gave him such exceptional powers as a physician and brought to him so large a share of the consulting practice of this country attached to him his professional colleagues as firmly as his patients One is almost tempted to believe that many consultations with Goodhart were arranged as much to afford the practitioner the pleasure of the personal interview with the consultant as to secure for the patient the benefit of his professional advice There was never any doubt, however, but that the patient would be pleased and satisfied too He would come away confident that the kindly physician had had a full understanding of the case and a proper sympathy with the sick man's own peculiar point of view No wonder that so universally popular a physician should at one time have been the busiest medical consultant in London It must not, however, be thought that in laying such stress on Goodhart's personal charm of manner and sympathetic disposition it is suggested that it was upon these alone that his professional success depended At the moment when one is feeling acutely the pang of separation caused by death it is those features in our lost friend upon which we prefer to dwell A busy general practitioner with an intimate practical experience of most of the prominent consultants said the other day, "What struck me most about Goodhart as a consultant was that he was always right " The present writer who was in constant touch with him in his work at Guy's Hospital, can well believe this to be true When every fatal case comes to examination in the post-mortem room, as is the custom in hospital practice, the physician's power of accurate diagnosis is put to a severe test Goodhart, who in his younger days as demonstrator of morbid anatomy had an exceptionally large experience of post-mortem work, had later on a high reputation amongst his hospital colleagues for accurately forecasting the pathological changes that would be found in the cases for which he had been responsible during life In his Harveian oration at the Royal College of Physicians of London in 1912 Goodhart spoke regretfully of "The Passing of Morbid Anatomy" There is no doubt that he laid the foundations of his own diagnostic skill by his industrious work in the dead house The Transactions of the Pathological Society from 1872 to 1886 give evidence by the numerous contributions they contain from his pen of the interest he took in this subject It was in pathology perhaps more than in clinical medicine that Goodhart made his mark as an original observer The addresses and lectures on clinical subjects which he delivered before numerous medical associations and societies in more recent years attracted the attention of the profession more on account of their sound common sense and the profound knowledge of human nature they displayed, than by reasons of the original clinical observations they contained Perhaps in clinical medicine Goodhart never quite saw the wood for the trees In dealing with the individual patient nothing escaped his attention, and as a teacher his most valuable work was undoubtedly done in setting an example to his pupils of thorough painstaking investigation by full inquiry as to every function and by physical examination of every accessible organ Less experienced students, accustomed to the spoon feeding which has, alas become so prominent a feature of medical education, were bored by the prolonged investigations, of which they often failed to grasp the import and missed the didactic methods whereby others of their teachers helped them to pass their examinations For advanced students and for men already some time in practice a visit to the ward with Goodhart was always an experience full of profit and interest

In tackling a troublesome patient Goodhart was no doubt at his best with a cross baby His experience as physician to the Evelina Hospital for Sick Children provided him with his only temptation to become a specialist For himself he hated the term specialist, and used to warn his juniors of the danger he early recognised in accepting the position, when a mother told him how she had at first resisted her doctor's advice to call him to her baby because she understood he was a specialist for children between the ages of six and seven

In his relations with his patients, as with his friends Goodhart was a confirmed optimist, and managed to inspire nearly all whom he met with his own hope and cheerfulness of spirit He worked right up to the end, and to the very last was busy brightening the lives of others The death of his wife in February of last year was a very severe blow to him, and at about the time of the first anniversary of the sad event the early and insidious symptoms were noticed of the fatal illness to which he succumbed on Sunday morning, May 28th, at the age of 70

JOHN HAROLD, M B, B CH R U I, M R C S L R C P LOND

Dr John Harold, who died in London on May 27th after a long illness, was born and educated in Dublin and studied medicine at Charing Cross and University College Hospitals, qualifying in 1889 From an earnest student he became a capable teacher, patient and clear in his demonstrations, which were free from the taint of mere empiricism He gained a varied experience at Charing Cross Hospital, where he was in succession demonstrator of physiology materia medica and pathology, and medical registrar, and at Westminster Hospital where he was clinical assistant in the skin department This experience served him in good stead in the literary work to which he devoted most of his time He was a careful and an accurate writer, and besides contributing freely to journals was senior assistant editor of "Quain's Dictionary of Medicine" himself contributing articles on such widely differing subjects as Euthanasia and Coccygodynia, Diabetes Insipidus and Glycuronic Acid and was the London collaborator of 'International Clinics Latterly he was physician to the St John and St Elizabeth Hospital at St John's Wood

DEATH OF MR ALFRED GRACE, M R C S ENG, L S A —Alfred Grace whose death occurred on May 24th was the second son of Henry Mills Grace and a brother of the three famous cricketing brothers "W G," "G F" and "E M" He was himself a fair cricketer as a boy and he was famous in the hunting field He took the M R C S Eng in 1863 and the L S A in 1864 and practised for many years at Chipping Sodbury He was a late Surgeon Lieutenant Colonel Royal Gloucestershire Hussars Yeomanry Cavalry

Correspondence.

"Audi alteram partem"

TUBERCULOSIS AND THE WAR

To the Editor of THE LANCET

SIR —The annotation in your issue of May 20th regarding discharge from the services owing to tuberculosis has drawn attention to one aspect of a very complex problem Tuberculosis carries in its train low wages unemployment and poverty, and is thereby associated with the realities of our future national life It is in the highest interest of the nation that we should try to solve this problem without delay, for if the solution be delayed until our great armies return it may well be that Swinburne's paradox may come true "The lame and the halt and the blind are keen and mighty and fleet' The control and eradication of tuberculosis is only to be achieved by a policy based on knowledge and foresight, and neither political expediency nor sentimentality can have any influence on the incidence of a disease Moreover, there are at least three aspects of the question which must be settled on their own merits The amount of a pension comes first, for it is clear that with the purchasing power of a sovereign reduced to eleven shillings, pensions which were adequate in the Napoleonic wars must be considerably augmented, then there are the men to whom these pensions should be awarded, and lastly there is the treatment of tuberculosis on national lines

For the purpose of stating a definite policy it is necessary to regard the tuberculous patients discharged from the services as falling into one or other of four large categories

I There may be men, free from tuberculous infection when they joined, who became infected and developed active disease in the services Such patients would be entitled to a full pension for life, since their disability would be wholly due to the conditions of service

II Secondly there are men who never suffered from active tuberculosis in civil life but who had a focus of latent infection, which developed, under the strain of active service into declared aggressive disease It is idle to speculate as to whether the man would have continued to enjoy his accustomed health had he remained in safe and comfortable employment in civil life The benefit of the doubt should go to the patient who ought to be pensioned on the ground that his disability was aggravated by active service.

III Again we have the men who had been treated prior to the war for pulmonary tuberculosis at tuberculosis dispensaries or at sanatoriums who regarded themselves as cured in so far as they were fit to earn their livelihood in civil life and who joined the services when the call came in the belief that they were able to serve the country Many of them have withstood the strain of war in a way which clearly demonstrates how much may be done for individual cases by scientific treatment Others have broken down and have been discharged as unfit for further service These men signed the attestation certificate in perfect good faith I hereby certify that to the best of my belief I have never suffered from any other disease likely to render me unfit for His Majesty's service ' Again they were allowed to serve after undergoing a medical examination and they joined from motives which it is well to recall even in the middle no less than at the beginning of war In my view these men have a right to claim that their relapse was aggravated by conditions of service

IV Lastly there were men with active disease which had rendered them unfit for employment in civil life who succeeded in joining the services One such recruit joined one branch of the services three times in 18 months and when seen by me had been twice discharged For [illegible] years before the war he had done no regular work and at the time of attestation his name was on the waiting list for admission to a sanatorium in the north of England During his time in the service he only appeared [illegible] on three occasions and went sick each time The remainder of his service was spent in hospitals When I asked him why he had joined again after having been discharged he replied with engaging frankness It's [illegible] than [illegible] at the docks I should add that the [illegible] intended to suggest any wholesale criticism of the [illegible] doctors through whose hands these patients passed into the services At the beginning of the war the numbers awaiting medical examination were large and the time for examination was limited. Moreover the call for men was urgent and the total supply was limited Many a doctor must have had in the back of his mind the idea of how many men he could pass rather than how many he could exclude in the interest of the country However that may be, only a vain sentimentalist would suggest that cases in this last group are entitled to any pension from the State

How, then, may we separate the wheat from the chaff? It has been suggested that the records of the compulsory notification of pulmonary tuberculosis in the hands of the public health authorities should be utilised for this purpose the idea being that cases notified before the war should not be pensioned while cases not notified would receive a pension The objections to this plan are so grave that I hope it will never be seriously considered A notification certificate is a private and confidential document, given on the understanding that no action based on the information granted will affect the patient except such interference as is already sanctioned by law The use of information given on that understanding, even if only passed from one Government department to another for the purpose of annulling an unjust claim, strikes at the basis of privileged confidence between patient and physician That is a necessary privilege which our profession has always guarded with jealousy, for it is older than the civilisation in which we live

There are other objections, not less serious, to the above proposal It would be an absolute handicap on early and accurate diagnosis In civil practice it is a commonplace that many patients do not seek advice until the disease is well advanced so advanced, indeed, that very often little can be done in the matter of curative treatment If the early recognition of pulmonary tuberculosis comes to be associated by large numbers of the community with the loss of financial recognition for services in the war it can only lead to further concealment and make-believe on the part of the ignorant Again this scheme would be most unjust to the men in Group III, who would be refused pensions without any inquiry into the particulars of their case. Lastly, there would be a number of previously undiagnosed cases in Group IV to whom pensions would be granted

I suggest that the Insurance Act provides for a method of deciding these claims whereby individual injustice will be reduced to a minimum. The procedure is quite simple and straightforward Let every man invalided from the services, who claims a pension on account of tuberculosis contracted or aggravated by the conditions of service, be asked to produce evidence from his approved society or from his insurance books, that for six months prior to attestation he was earning his living in civil life, or if unemployed that he was not in receipt of sick benefit on account of tuberculosis To all who satisfied this test pensions for life might be granted with justice —I am Sir, yours faithfully

May 22nd 1916 HALLIDAY SUTHERLAND

A NEW DRESSING FOR SKIN-GRAFTS

To the Editor of THE LANCET

SIR —The method of grafting propounded by Thiersch has hitherto been in general use in cases where it is impossible to cover large surfaces of cuticle by means of additional cuts strips and seams It is therefore frequently resorted to by the practical surgeon Unfortunately when it becomes necessary to cover more extensive granulated surfaces such as those left after a burn even modern aseptic methods do not always ensure success and it is not unusual for suppuration to be set up under the dressing which destroys the vitality of the grafts and causes them to mortify Such occurrences are all the more disappointing as the grafts are taken from a healthy part of the patient who not only gains nothing by the unsuccessful grafting but remains with an additional surface wound to heal Not only do the generally accepted methods of preparation of the wounded surface for grafting and the successful fixation of the particles of graft have an enormous influence on the success of the operation but the scientific dressing of the wound after grafting is also of importance The two essentials—(1) the proper fixation of the grafts and (2) such perfect cleanliness of the wound surface as to prevent suppuration—constitute the extreme difficulty of the task, for it is almost impossible to remove the dressing without disturbing the grafts, and without doing so the absence of discharge cannot be determined To prevent adhesion of the grafts to the dressing they have been protected by strips of silver foil, gold beater's skin, or other substances applied in overlapping layers, or in pieces perforated to allow of drainage This method, although perfect for fixing the grafts, has the important disadvantage of encouraging the wounded surface to discharge, with consequent accumulation of pus under an impervious cover, thereby clogging the particles and preventing their growth. This I have found to account for most of my failures

To prevent the accumulation of discharge under the protective dressing I decided, therefore to use a coarse meshed metallic netting to fix the grafts, and over that I placed a moist dressing of saline Unfortunately, I was unable owing to the war to procure a suitable silver net, but I found that the ordinary large-meshed canvas supplied for ladies' wool-work answered all the requirements To obtain the necessary elasticity and pliability and prevent the canvas from absorbing pus into its meshes, which might render the wounded surfaces septic, the canvas was starched and soaked in melted paraffin The canvas thus treated was then rolled on a glass cylinder, wrapped in waxed paper and sterilised during which process the superfluous paraffin was absorbed and a firm pliable, non absorbent netting obtained, which proved an excellent covering for Thiersch's grafts Pieces of skin were transplanted direct on to a granulated surface previously prepared by daily dressings This dressing consisted of several layers of sterilised gauze soaked in saline, over which was placed dry wood wool (lignine) bandaged on without either oilskin or waxed paper On the wound when grafted is placed the net or canvas which on becoming warmed by the heat of the body at once adheres closely to the surface The net should be larger than the wound and the edges securely strapped down with strips of adhesive plaster Over this is then placed a dressing of gauze soaked in saline covered with lignine without either oilskin or waxed paper and securely bandaged After two days the dressing as far as the net, can easily be removed as the gauze scarcely adheres to the canvas Slightly moistening the dressing will help to remove it The net remains in place for eight days the dressing is changed daily and the surface of the canvas cleansed from discharge with saline or hydrogen peroxide On the eighth day the canvas is removed when the grafts will be found firmly adherent and beginning to spread over the periphery The certainty of success under these conditions is very great Grafting by this method has been practised by me and my assistants in more than 20 wounds of more than a handsbreadth without losing a single graft The encouraging results prompt me to publish these observations

I am, Sir yours faithfully

A. N HAGMANN,

Professor at the Moscow Women's Surgical College

THE HEROES OF WITTENBERG

To the Editor of THE LANCET

SIR,—Many of us must feel deeply that some memorial should be put to the memory of the three brave doctors who died at Wittenberg Camp of typhus, while doing their utmost to alleviate the terrible suffering and misery of which we have all read with a thrill of horror from the reports of Major Priestley Captain Vidal, and Captain Lauder

The King has voiced all our wishes by the honours he has graciously bestowed on these gallant men who mercifully survived, and we now feel that the names of those who died—Major W B Fry, Captain A A. Sutcliffe and Captain S Field all officers in the Royal Army Medical Corps—should be remembered in the years to come

All will agree that, if possible, the memorial should take the form of helping to alleviate suffering and do some permanent good but that must necessarily depend on the amount received.

I will gladly receive and acknowledge all contributions however small for I feel all men and women will wish to join in honouring the memory of such men

I am, Sir yours faithfully,

CONSTANCE PARKER OF WADDINGTON

Aldworth Haslemere Surrey May 1916

THE HORRORS OF WITTENBERG CAMP

To the Editor of THE LANCET

SIR —When you were good enough to publish in your issue of April 22nd a letter from me upon the above subject my intention was to bring a resolution before the annual meeting of the Laryngological Section of the Royal Society of Medicine requesting the Council of the society to delete the names of all Corresponding Members of German birth from the roll of the section as an outward expression of disgust with the treatment, or rather lack of treatment meted out to our helpless and fever stricken prisoners of war at the hands of their professional confrères

A resolution to this effect was sent by me to the honorary secretary of the section, but on submission to the President of the society was held by him to be *ultra vires* I accordingly modified the original and sent a fresh resolution to the secretary of the Otological Section for discussion at the annual meeting on May 19th, couched in the following terms —

> That the members of the Otological Section of the Royal Society of Medicine desire to place on record their sense of abhorrence and disgust at the conduct of Oberstabsarzt Dr Aschenbach and his colleagues in their abandonment of British prisoners of war during the epidemic of typhus fever at the Wittenberg Prisoners of War Camp and request the Council of the Royal Society of Medicine to take such steps as they in their judgment may think fit to emphasise the feelings of indignation shared by members of the British medical profession

This resolution was accepted as in order by the President of the Section, Dr Albert Gray, of Glasgow, was proposed by myself, seconded by Mr Richard Lake, and supported by Dr Watson Williams After a somewhat prolonged and pointless discussion the resolution was put to the meeting and lost, 9 members voting in its favour, 13 against

The majority of the members present at the annual meeting of the Otological Section were therefore in favour of making *no protest whatever* against German barbarity to those typhus stricken prisoners of war who, in their day of health and vigour, had done what lay in their power to defend our hearths and home *Hinc illæ lachrymæ*

I am, Sir, yours faithfully

Manchester May 28th 1916 WILLIAM MILLIGAN

CIRRHOSIS OF MESENTERY

To the Editor of THE LANCET

SIR,—I have had some difficulty in finding an apposite term with which to describe some conditions which I have encountered when operating in the abdomen of alcoholic and fatty subjects The cases could be classified into 1 Those in association with hepatic cirrhosis I have from time to time observed remarkable tumefaction and induration of the great omentum which at first glance suggested malignant infiltration, but in which the history, general condition and absence of nodules, with the coexistence of a contracted liver dispelled such a suspicion On section only ordinary fibrous tissue formation was noted In other words what once was a delicate fatty apron had become converted into a diffused block of cirrhosed material 2 Those displaying the ominous alcoholic girdle—a ring of dilated superficial veins over the lower thorax In these I have often noted that when an attempt was made to ligate peritoneal adhesions the ligatures easily cut, or indeed broke through and in several instances I have had a similar experience with the meso-appendix prior to appendicectomy Section invariably showed marked thickening with distinct fibrous changes Furthermore I have in these cases frequently met with distinct fibrous degeneration (cirrhosis) of the bowel wall which readily broke away on insertion of sutures to cover in the appendical stump 3 Those occurring in fatty persons women and alcoholics in particular in whom there was a history of ill defined colicky pains without any obvious organic lesions This type of case has often caused me much diagnostic perplexity and on abdominal exploration I have often found nothing to account for the symptoms except the partial conversion of large appendices epiploicæ into dragging masses of fibrous tissue The size on section of the fibrous strands which permeate some of these lumps was noteworthy and in some unquestionable victims of alcohol I have seen a complete cirrhotic transformation of these strands

In many of these patients definite evidence of pericolitis was present—viz. extensive adhesions in the cæcal ascending colon and sigmoid regions In some there had been a definite history of spasmodic pain and discomfort [illegible] constipation, or gastritis Separation of intestinal adhesions in alcoholic individuals is a futile procedure, as they always re form Although we are taught that fat stores up excess of alcohol, I am inclined to attribute this form of cirrhosis to microbic infection or to bacterial toxins passing from within outwards through the wall of the intestine by the lymphatics The infection itself has been caused by prolonged irritation of the mucous membrane due to a liberal intake of alcohol or in fat women to the fæcal accumulation in their sluggish colons I have also observed this cirrhosis of the mesentery in conjunction with glycosuria suggesting that the fatty tissue in the pancreas had become similarly infected and cirrhosed so as to interfere with the function of the islands of Langerhans —I am Sir, yours faithfully,

JOHN O CONOR M A, M D T C D

Senior Medical Officer British Hospital Buenos Aires

BOGUS MEDICAL DEGREES BILL FOR INDIA

To the Editor of THE LANCET

SIR,—With regard to your correspondent's reference to the Bogus Medical Degrees Bill for India that appeared in your issue of May 13th, Sir Pardey Lukis is quite right in his belief that a very large consensus of opinion is in favour of the principle of the Bill The few criticisms are only made with regard to details For instance I can quite understand the attitude of the Bombay Medical Union which at its annual meeting held an open mind concerning the Government recognition of the Yunani (Mussalman) and Ayurvedic (Hindu) systems of medicine While in India about two years ago I was much impressed with the good work carried on by many Ayurvedic physicians some of whom are qualified men with medical diplomas from Indian Universities The Ayurvedic colleges in India are training men in anatomy physiology, pharmacy and medicine, and are doing original work by translating Sanscrit medical works and reinterpreting them in the light of modern medical science Any indigenous attempt to revitalise Indian medicine by European thought ought to be welcomed by all well wishers of India For it is only by this way that the millions of the Indian people will take kindly to Western medicine and thus a lasting union between India and England be made Therefore I sincerely hope that the work of the Ayurvedic colleges may find some recognition in the Bill now before the Indian Government

I am Sir, yours faithfully

C MUTHU

Wells May 21st 1916.

A MINOR SYMPTOM OF EXOPHTHALMIC GOITRE

To the Editor of THE LANCET

SIR —I should like to draw attention to a peculiarity exhibited by some patients who are suffering from exophthalmic goitre—namely, a tendency to wash their hands with a frequency which is out of all proportion to the demands of ordinary cleanliness The hyperidrosis of the hands and especially of the palms usually associated with the disease in question is no doubt responsible for this phenomenon in a certain number of cases but on the other hand it has been found in well marked cases of exophthalmic goitre in which excessive sweating of the palms did not appear to be present and in which the patients themselves were entirely unconscious of its presence and only complained as far as their hands were concerned of a feeling as if the latter were "always dirty" In cases of this type the tendency to wash the hands very frequently may be partly in the nature of a neurosis and partly a result of chronic discomfort due to slight palmar hyperidrosis of which the patient is not actively conscious

The interest attaching to this symptom lies in the fact that it sometimes appears in comparatively early cases, In one case of well marked exophthalmic goitre it was found upon inquiry that a desire to wash the hands very frequently constituted one of the first departures from the normal which the patient had noticed The writer has found the symptom in question present to a greater or lesser degree in seven undoubted cases of exophthalmic goitre—all in women—and also in a woman suffering from nodular [illegible] had a slightly enlarged thyroid gland, unassociated, however, with any further symptoms of exophthalmic goitre

I am, Sir, yours faithfully,
RICHARD J CYRIAX, M R C S , L R C P

Welbeck street, W , May 22nd 1916

THE RESPONSIBILITY OF MEDICAL OFFICERS IN CHARGE OF PRISONERS

To the Editor of THE LANCET

SIR,—I, like many other officers of the Royal Army Medical Corps, have lately been in charge of prisoners, and I suggest that THE LANCET would do well to instruct us in our duties The questions involved are important, and one's ordinary superiors appear to have no definite conception of the ethical and juridical principles involved. Let me state the problem

1 One is dealing with a lot of men and women, not subject to military law, not convicted of any crime, and of whom the highest authority has stated that some are innocent and arrested by mistake

2 The medical officer would presumably be held primarily responsible for any hurt which any of these prisoners suffered in health from insanitary surroundings, overcrowding defects of food or clothing, &c , consequent on their confinement

3 How far the operations of martial law would protect him from subsequent civil action seems doubtful Certainly he could be called on to justify his actions

4 Is there an implied responsibility, arising out of the *office of physician to the prisoners*, to ascertain that each one of them is fit for detention or for transportation ?

5 If a prisoner be decided by the authorities to have been improperly arrested, and an order for his discharge be made, but meanwhile he dies as a result of the insanitary conditions of his place of detention or of the voyage of transportation, can the medical officer be held civilly responsible ?

6 In such a case as above where the person who dies on the journey or loses his mind during detention, is not a person subject to military law, if the medical officer be charged in the civil court, is it any answer to say that his official superior did not think the patient unfit for the journey or the place overcrowded or insanitary ?

7 The point at issue is How can the medical officer reconcile his responsibility to the patient who is not under military law with obedience to his military superior ?

I am, Sir, yours faithfully,

Dublin May 25th 1916 LIEUTENANT, R A M C

⁂ Our correspondent will find, we believe, that no military orders will compel him to do violence to his ethical conceptions —ED L.

Hospital Saturday was observed at Portsmouth on May 27th when £625 11*s* 6*d* were collected for the hospital and other local medical charities Since the inauguration of this Fund in 1876 the sum of £29,986 has been received from this source

CONFERENCE ON SANITARY ADMINISTRATION UNDER WAR CONDITIONS —At the Royal Sanitary Institute, 90, Buckingham Palace road, S W , a conference on the above subject will take place on Friday and Saturday next June 9th and 10th The conference will be opened by the Lord Mayor of London, and at the morning session of the first day Mr H Percy Boulnois, M Inst C E and Dr James Wheatley, medical officer of health to the Shropshire County Council will open a discussion on the Maintenance of the Standard of Municipal Sanitation during the Continuance of War Conditions, the Mayor of Westminster presiding At the morning session of the second day Dr A B Ritchie, medical officer to the Manchester Education Committee, will open a discussion on the Administration of the Mental Deficiency Act from the Social and Educational Standpoint, Mr Leslie Scott, K C M P , presiding The afternoon sessions will be devoted to visits to various municipal and commercial institutions, as well as to the King George Hospital and King's College Hospital No charge will be made for the Conference ticket but a fee of 5*s* will be asked for proofs of the papers opening the discussions together with the subsequent report of the proceedings For further particulars application should be made to the secretary at the Institute

The War.

THE CASUALTY LIST

THE following names of medical officers appear among the casualties announced since our last issue —

Killed

Captain D Waterston, Canadian A.M C , attached to the Canadian Infantry, received his medical education at McGill University, Montreal, and qualified in 1914

Lieutenant Colonial G O Moorhead, Commanding Officer, Nyasaland Contingent, Union Expeditionary Force, was a medical man in practice in Central Africa, which he gave up on the outbreak of war and joined the Union Defence Force as a combatant officer, having previously seen service in the South African War

Died

Lieutenant H J S Kimbell, R A M C , was a student of St Bartholomew's Hospital, London, and qualified in 1907 He held appointments at the West End Hospital for Nervous Diseases, the Hospital for Women, Soho, the City of London Lying in Hospital, and the Bedford County Hospital and was recently in charge of the Preston Hall Hospital Maidstone He joined the R A.M C in August, 1915

Wounded

Captain J H Aikman, R A M C

Captain G A E Argo, R A M C

Previously reported Missing now reported Prisoners

Lieutenant J Brown, R A M C

Captain W R O'Farrell, R A M C

DEATHS AMONG THE SONS OF MEDICAL MEN

The following sons of medical men must be added to our lists of those who have fallen during the war —

Lieutenant-Colonel G O Moorhead Union Expeditionary Force, eldest son of the late Brigade Surgeon G A Moorhead

Second Lieutenant C C Howard, only son of Dr J A Howard of Upper Norwood

Lieutenant G D Grune, Royal Field Artillery, attached to the Royal Flying Corps, son of Captain E Grune, R A M C , of Southwick, Sussex.

THE HONOURS LIST

The following awards to medical officers for gallantry and devotion to duty in the field are announced —

Distinguished Service Order

Temporary Captain Thomas Lewis Ingram, R A M C (attached 1st Battalion Shropshire Light Infantry)

For conspicuous gallantry and devotion to duty He collected and attended to the wounded under very heavy fire and set a splendid example Since the commencement of the war he has been conspicuous on all occasions for his personal bravery

Military Cross

Captain James Couper Brash, 10th Field Ambulance, R A.M.C (Special Reserve)

For conspicuous gallantry and devotion to duty He went to an artillery dug-out which had received a direct hit, and assisted by two men extricated the wounded and administered first aid under heavy shell fire

Captain Henry Percival Hart, R A M C

For conspicuous gallantry and devotion to duty when although himself wounded he went out, dressed and brought into safety the wounded under heavy shell fire.

Temporary Captain Philip Randal Woodhouse, R A M C (attached 1st Battalion Irish Guards)

For conspicuous gallantry and devotion to duty He tended the wounded under heavy shell fire and though himself wounded continued his work On another occasion he went across the open under shell fire to attend to the wounded.

Temporary Lieutenant William John Knight, 73rd Field Ambulance, R A.M C

For conspicuous gallantry and devotion to duty when in charge of an advanced dressing station under heavy shell fire He continued to attend the wounded with great coolness

MENTIONED IN DESPATCHES

In a despatch from General Sir Douglas Haig, G C B, dated May 19th, dealing with recent operations of the British Army in France, the following references to the medical services and to chemical research are made —

All branches of the medical services deserve the highest commendation for the successful work done by them, both at the front and on the lines of communication The sick rate has been consistently low, there has been no serious epidemic, and enteric fever, the bane of armies in the past, has almost completely disappeared owing to preventive measures energetically carried out The results of exposure incidental to trench warfare during the winter months were to a very great extent kept in check by careful application of the precautions recommended and taught by regimental medical officers The wounded have been promptly and efficiently dealt with, and their evacuation to the base has been rapidly accomplished The close coöperation which has existed between the officers of the regular medical service of the army and those members of the civil medical profession who have patriotically given their valuable services to the army, has largely contributed to the prevention of disease and to the successful treatment and comfort of the sick and wounded As part of the medical services the Canadian Army Medical Corps has displayed marked efficiency and devotion to duty

The valuable nature of the work performed by the officers of the Central Laboratory and the chemical advisers with the armies in investigations into the nature of the gases and other new substances used in hostile attacks and in devising and perfecting means of protecting our troops against them, is deserving of recognition The efforts of these officers materially contributed to the failure of the Germans in their attack of 19th December, 1915, as well as in the various gas attacks since made

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Major J A. Hartigan, R A.M C
Captain G H Dive, R A.M C

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Major E B Booth, D S O, R A M C
Captain T M R Leonard West African Medical Staff
Lieutenant Colonel J C B Statham C M G, R A.M C
West African Medical Staff J C M Bailey, W S Clark, W E S Digby, W H Peacock, T H Suffern, C E S Watson, and R F Williams

CENTRAL MEDICAL WAR COMMITTEE

A meeting of the Central Medical War Committee was held on May 31st, when the position of medical men in relation to the Military Service Acts was fully considered The official recognition of the Committee and of the Committee of Reference of the English Royal Colleges, and the Scottish Medical Service Emergency Committee was pointed out, this position having been brought about by the assistance of four great departments, the Royal Army Medical Corps, the General Medical Council the Local Government Board, and the National Insurance Commission The task now before the Central Medical War Committee is to enumerate and classify all the medical men concerned under the Military Acts, the age-limit here being 41, or under the enrolment scheme where the age-limit is 45 In this task and the work which follows the Committee will receive expert legal and clerical assistance from the National Insurance Commission

WORK AT A FIELD AMBULANCE

Lieutenant Colonel G J Stoney Archer, R A M C who has been in charge of field ambulances in Gallipoli and in France since the outbreak of war sends the following scheme of duties devolving upon the personnel of the ambulance when a batch of wounded is expected or arrives

For the purposes of the scheme it is assumed that the tent subdivision of B and the section bearers of A and F are at the advanced dressing station, and the tent subdivision of A is open at headquarters with tent and bearer subdivisions of C assisting and in reserve, as this will probably be the best distribution of the field ambulance when in action The following is the scheme —

Distribution of Sections

1 *Dispenser* —(*a*) The dispenser Sergeant M——, under Captain P——'s instructions, will have dressings, instruments &c, sterilised and ready (*b*) He will have a solution of morphia (hypodermic) available in two small bottles of convenient size, also antitetanic serum and syringe for same also strychnine, *pituitary extract, chloroform, Skinner's* mask, &c

2 *Cook* —The cook will have plenty of boiling water ready for making lotions, tea, milk, or bovril, &c Lieutenant and Quartermaster H—— will supply him with necessary stores

3 *Sergeant Major* —(*a*) The Sergeant Major will inform all the medical officers who will at once come to the receiving room and be available for duty (*b*) He will at once parade all available N C O 's and men at headquarters with the exception of the clerks and sanitary squad The bearers will fall in with their slings (see note (4) on the scheme) (*c*) The Sergeant Major will superintend the bearers bringing in or taking out cases to the motor ambulance convoy (*d*) He will detail two or more orderlies whose sole duty will be to go round continuously to every wounded man and ask him if he would like a drink of water, tea bovril, or milk or a cigarette, and to give him what he asks for unless there are two red lines drawn across the label on his coat (see para 4 *c*) The orderlies will also ask each wounded man if they can do anything to make him more comfortable such as arranging a stretcher pillow or coat under his head or other part of his body as required They will at once report *to a medical officer* if any man seems to require morphia *owing to being in pain* They will also see that those who are cold get hot water bottles, sufficient blankets &c (*e*) The Sergeant-Major will see that the *nursing orderlies* are in their wards, and assisted by other men brought in from the bearers (*f*) *He will detail an orderly to be attached to each* medical officer as his personal assistant

4 *Officers* —(*a*) The officers present would be Lieutenant Colonel A——, Captain P—— and Lieutenant and Quartermaster H—— (A Section) and Captain S——, Lieutenant M—— and Lieutenant H—— (C Section) (*b*) Lieutenant H—— and Lieutenant M—— will be at Captain P——'s disposal and assist him with the dressings, &c (*c*) Captain S—— will see each case as it arrives and arrange that each wounded man is inspected at once He will select those who require *immediate attention, and will mark them by drawing* one red pencil line across the label on their coat Any case which is not to have liquid or food of any sort by the mouth (e g, perforating intestinal wounds &c.) will have two red lines drawn across their label with a red pencil (as a cheque is crossed) (*d*) Chest abdominal moribund and slight cases will be arranged systematically in separate places as far as possible (*e*) Lung cases, *after* they have been dressed will have a blue bandage tied on a conspicuous part of their clothes abdominal cases a red bandage and all other cases a white bandage (*f*) Cases that a medical officer dresses and considers will probably not require dressing again that day should have this recorded *on their tally*, in addition to the usual instructions which are put on the tally such as amount of morphia given, antitetanic inoculation &c (*g*) Lieutenant and Quartermaster H—— will superintend the pack storekeeper who will be responsible that a plentiful supply of dressings is available

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The N C O detailed will take particular care to inspect and note whether field glasses and revolvers are contained in their cases, and will carry out instructions laid down in Circular D G M S No 26/2,105/15 where it applies, that is in case of death or where an officer is unconscious and has no servant in charge of his kit, &c

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Notes on Above Scheme

1 The above scheme will be carried out without notice by labelling bearers of C Section with supposed serious injuries, and the C O expects that when he gives a signal for this to be done officers and other ranks will fall into their place and carry out the above duties automatically 2. For the information of all concerned a copy of this scheme will be posted up in the orderly room, the admission room, and in a convenient place where all ranks can see it 3 The officers, N C O s, and men above mentioned will of course, vary from time to time, depending on the officers N C O 's, and men who may be absent at the advanced dressing station, &c, but this will not in any way interfere with the general working of the scheme, the commanding officer making the necessary alteration in actual personnel immediately the occasion arises 4 A stretcher sling has now been given to each stretcher-bearer in this field ambulance, it is marked with his number and name, and he is responsible for it as part of his equipment When the slings were left with the stretchers it was found that they were being continually lost and not available when required. This plan has a further advantage that the bearer always has a sling fitted and padded to his own size and liking 5 The commanding officer will hold all ranks responsible for being thoroughly acquainted with the above scheme

CRAIGLEITH HOSPITAL CHRONICLE —Our contemporary the *Craigleith Hospital Chronicle*, the profits of which are devoted to extra comforts for the sick and wounded has among its May–June contents an interesting illustrated account of Easter in Russia by Jean d Auvergne and a short history of the Regalia of Scotland The reproduction of a portrait of Surgeon General J O Culling the new D D M S of the Scottish Command forms a frontispiece Copies of the magazine can be obtained from the 2nd Scottish General Hospital, Craigleith, Edinburgh, price 6*d*

KEIGHLEY BASE HOSPITAL —The new military base hospital at Morton Banks Keighley, Yorkshire, which will afford accommodation for about 400 cases will be opened in four or five weeks time Owing to the energetic action of the Mayor of Keighley £10 200 have been collected in little over a month a sum which will cover the cost of converting the fever hospital and adding other buildings which will constitute the new military structure

BATHS FOR EAU COURANTE TREATMENT AT BRIGHTON —Baths for this treatment of injuries of the arm and leg have been installed in connexion with the Red Cross Auxiliary Hospitals for Officers at Brighton The apparatus installation is the generous gift of H R H the Princess Royal.

MEDICAL MEN AND WAR SERVICE —A meeting of medical men was recently held at Plymouth, about 30 being present the majority of whom enrolled for military service

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PRIZE ESSAY ON MATERNITY AND CHILD WELFARE —The Royal Sanitary Institute is offering a medal and a prize of £50 for the best thesis on a scheme for maternity and child welfare work suitable for adoption by local authorities The conditions may be obtained from the Secretary, 90 Buckingham Palace road London, S W

Medical News.

UNIVERSITY OF LONDON —At the Third (M.B, B S) Examination for medical degrees held recently the following candidates were successful —

Louis Abel Celestin University College Hospital William Maurice Crombie St Thomas s Hospital Christopher Ignatius de Silva, University College Hospital John Alfred Wylde Ebden Westminster Hospital David Sydney Graves, Guy's Hospital Innes Hope Pearse London (Royal Free Hospital) School of Medicine for Women *†Leonard George Phillips B Sc. Middlesex Hospital Lloyd Desbat Phillips University College Hospital Emma Christine Pillman London (Royal Free Hospital) School of Medicine for Women Arthur Lisle Punch Guy s Hospital Leslie Norman Reece St Thomas s Hospital, *†‡Stanley Ritson, B Sc. (University Medal) King's College Hospital Douglas George Clutsam Tasker University of Bristol James William Tudor Thomas Middlesex Hospital and University College Cardiff Arthur Henry Turner University of Liverpool Sibyl Ibbetson Welsh London (Royal Free Hospital) School of Medicine for Women and Arthur Wai tak Woo London Hospital

* Distinguished in Medicine † Distinguished in Surgery
‡ Distinguished in Midwifery and Diseases of Women

The following candidates have passed in one of the two groups of subjects —

Group I —Grace Mary Griffith University College, Cardiff and University of Leeds Cyril Eaton Petley and Basil Sampson Guy's Hospital Alfred George Simmins Guy s and Westminster Hospitals and Eric Clarence Spaar B.A., Ceylon Medical College and St. Bartholomew's Hospital

Group II —Arthur Wilfrid Adams, University of Bristol Frederic Vivian Bevan Brown Guy's Hospital Robert Malcolm Dannatt St. Bartholomew's Hospital Walter Henry Lloyd Middlesex Hospital and Violet Ione Russell London (Royal Free Hospital) School of Medicine for Women

N B —This list, published for the convenience of candidates is issued subject to its approval by the Senate

THE annual general meeting of supporters of the South London Hospital for Women Clapham Common, S W, will be held at 16, Carlton House terrace, S W, by permission of Lady Cowdray, on Thursday next, June 8th, at 3 15 P M, the Marchioness of Londonderry presiding Lady Frances Balfour, Sir Frederick Treves, and Mr Pett Ridge are announced to speak.

CHADWICK LECTURES ON MEASLES —The first of the two Chadwick lectures on measles, delivered by Dr H J Cates, medical officer of health of St Helens, Lancs., was presided over by Sir William J Collins, chairman of the Chadwick Trustees. Sir William Collins stated that in London during the period 1905–09 measles killed more children than all the ordinary notifiable diseases put together Nearly all the deaths from measles were of children under the age of 5 years In the case of measles, unlike other notifiable diseases notification could not be directed to stamping out the disease altogether nor to the removal of most of the cases to hospital Home nursing therefore became all important, although it might well be supplemented by voluntary hospital provision Insanitation was mainly responsible for the high fatality in certain places and at certain times The deadly epidemic in the Fiji Islands in 1874 was due, not as was often said to the disease attacking a virgin soil, but to the gross neglect of the sick and want of ordinary care and nourishment At the present time we ought not to relax ordinary sanitation and leave refuse undealt with and streets unwatered or we should pay the penalty of epidemic disease and high infant mortality Dr Cates dealt with the history of the disease, describing how epidemics of measles in the past had destroyed nearly a quarter of the population of a district In England and Wales 10,000 children died from the disease every year and at least an equal number were left permanently disabled Since the commencement of war there had been serious outbreaks of measles amongst the troops in several areas The occurrence of an epidemic could be foretold with almost mathematical certainty, and there was therefore little excuse for sanitary authorities to allow an outbreak to find them unprepared In clean homes and in good surroundings healthy children rarely failed to make a good recovery, on the other hand, the death rate from measles among infants of unskilled labourers was nearly four times as great as that of children of the upper and middle classes. The main cause of death in measles was infection set up by an unhealthy condition of the mouth, nose, and throat. A child whose playground was the unswept street, whose idea of hide and seek was confined to a romp in an alley in which filth and garbage was lying whose voyage of discovery was limited to a search for cigarette cards among the contents of ashpits, was unlikely to possess a healthy nose and throat. Dr Cates appealed for the general extension of treatment to children under school age and urged that the plea of economy should not be allowed to jeopardise the health of the nation

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* Distinguished in Medicine † Distinguished in Surgery
‡ Distinguished in Midwifery and Diseases of Women

The following candidates have passed in one of the two groups of subjects —

Group I —Grace Mary Griffith University College, Cardiff and University of Leeds Cyril Eaton Petley and Basil Sampson Guy's Hospital Alfred George Simmins Guy's and Westminster Hospitals and Eric Clarence Spaar B.A Ceylon Medical College and St Bartholomew's Hospital

Group II —Arthur Wilfrid Adams University of Bristol Frederic Vivian Bevan Brown Guy s Hospital Robert Malcolm Dannatt St. Bartholomew's Hospital Walter Henry Lloyd Middlesex Hospital and Violet Ione Russell London (Royal Free Hospital) School of Medicine for Women

N B —This list, published for the convenience of candidates is issued subject to its approval by the Senate

THE annual general meeting of supporters of the South London Hospital for Women, Clapham Common, S W , will be held at 16, Carlton House terrace, S W , by permission of Lady Cowdray, on Thursday next, June 8th, at 3 15 P M , the Marchioness of Londonderry presiding Lady Frances Balfour, Sir Frederick Treves, and Mr Pett Ridge are announced to speak

Chadwick Lectures on Measles —The first of the two Chadwick lectures on measles, delivered by Dr H J Cates, medical officer of health of St Helens, Lancs., was presided over by Sir William J Collins, chairman of the Chadwick Trustees Sir William Collins stated that in London during the period 1905–09 measles killed more children than all the ordinary notifiable diseases put together Nearly all the deaths from measles were of children under the age of 5 years In the case of measles, unlike other notifiable diseases, notification could not be directed to stamping out the disease altogether nor to the removal of most of the cases to hospital Home nursing therefore became all important, although it might well be supplemented by voluntary hospital provision Insanitation was mainly responsible for the high fatality in certain places and at certain times The deadly *epidemic* in the Fiji Islands in 1874 was due, not as was often said to the disease attacking a virgin soil, but to the gross neglect of the sick and want of ordinary care and nourishment At the present time we ought not to relax ordinary sanitation and leave refuse undealt with and streets unwatered or we should pay the penalty of epidemic disease and high infant mortality Dr Cates dealt with the history of the disease, describing how epidemics of measles in the past had destroyed nearly a quarter of the population of a district In England and Wales 10,000 children died from the disease every year, and at least an equal number were left permanently disabled Since the commencement of war there had been serious outbreaks of measles amongst the troops in several areas The occurrence of an *epidemic* could be foretold with almost mathematical certainty, and there was therefore little excuse for sanitary authorities to allow an outbreak to find them unprepared In clean homes and in good surroundings healthy children rarely failed to make a good recovery, on the other hand, the death rate from measles among infants of unskilled labourers was nearly four times as great as that of children of the upper and middle classes. The main cause of death in measles was infection set up by an unhealthy condition of the mouth, nose and throat A child whose playground was the unswept street, whose idea of hide and seek was confined to a romp in an alley in which filth and garbage was lying whose voyage of discovery was limited to a search for cigarette cards among the contents of ashpits, was unlikely to possess a healthy nose and throat Dr Cates appealed for the general extension of treatment to children under school age, and urged that the plea of economy should not be allowed to jeopardise the health of the nation

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

The Military Service Act

THE Military Service Act which introduces compulsory military service for all male British subjects ordinarily resident in Great Britain between the ages of 18 and 41 has received the Royal assent It embodies a scheme of professional committees to deal with exemptions which may be granted to medical men

Highlands and Islands Medical Service Board

The report of the Highlands and Islands Medical Service Board for the year 1915 has been presented to Parliament and issued as a Blue book It states that, as indicated in their first report, the Board had in contemplation the constitution of committees for the local administration of grants from the fund in the various districts in their area, composed of representatives of all the public bodies on whom Parliament had placed responsibility for dealing with matters affecting the health of the individual or of the community A scheme providing for the election of the committees, and setting forth the powers and duties to be entrusted to them, was placed before the Secretary for Scotland for his consideration in July, 1914 A further scheme for a first allocation of the fund, based on the actual needs of the various districts as ascertained by close scrutiny and sifting of the local proposals, by such advice as the Board had been able to obtain from all available sources, and by conference with representatives of the various interests in each district, was submitted for approval early in November, 1914 In view, however, of difficulties felt by the Secretary for Scotland and the Treasury as to the expediency of setting up new local bodies for the special purpose of the administration of the fund, the Board agreed, after they had placed their views fully before the Secretary for Scotland, to undertake the direct administration of their grants, utilising the assistance of existing local authorities and other bodies in any way that might be found to be desirable The decision to dispense with local administrative committees necessitated the revision of the schemes already submitted and the preparation of more detailed schemes dealing with the various aspects of the Board's work Fresh proposals were placed before the Secretary for Scotland in April 1915 The schemes, as finally approved on August 11th, 1915, are given in the report The Board express their indebtedness to the Scotch Education Department for permitting Dr CRUICKSHANK, their medical officer, to take part in the work of organising the Board's schemes, and also to the naval authorities for their kindness in arranging for the convey ance of nurses and medical stores to and from outlying islands where the ordinary means of communication are at at present in abeyance

HOUSE OF COMMONS

WEDNESDAY, MAY 24TH

Medical Examinations in the Army

Mr ASHLEY asked the Under Secretary for War why it had been decided to increase the number of men medically unfit in the army by suspending the check of examination by regimental medical officers when men joined second line units, how long must a man have been in training before the regimental medical officer was allowed to examine him except for infectious disease, and when a man broke down under training and was sent to hospital might medical examination then take place —Mr TENNANT answered There is no limitation to the examination of soldiers by their regimental medical officers when it is necessary in the interests of the men's health

Mr ASHLEY Can recruits on joining be examined by the medical officers of the units?—Mr TENNANT Yes, when it is considered necessary

Medically Rejected Men

Answering Mr HOGGE, who put a question regarding men who had been medically rejected for the army Mr TENNANT said The following classes of men will not be summoned for re-examination medically (a) Those who are recorded in the military register as having been rejected at the primary military examination, (b) those who are recorded in the military register as having been rejected by a medical board (c) those who now willingly present themselves for re-exami nation medically and are found by a medical board to be unfit for any service (d) those concerning whom the recruit ing officer is satisfied that there is no possible doubt The aim of the Army Council is to eliminate only the improperly "rejected" men—that is, men holding certificates which have been granted to others than themselves and transferred to them and men holding certificates saying they were unfit because of some transient and now long past disability

British Prisoners of War in Germany

Mr TENNANT, replying to Major WHELER, stated that he found that the authorised scale of rations for British prisoners in Germany was in practice disregarded with serious con sequences to the prisoners He was advised that if it had not been for the parcels of food sent to the men from this country they would in many instances have starved There fore he did not think that there should be any relaxation of the efforts which had been made, and were being made, to send relief to the prisoners

The Steel Helmets for the Troops

Mr TENNANT informed Mr JOYNSON HICKS that the French steel helmet was made in three sizes The English steel helmet was also made in three sizes

THURSDAY, MAY 25TH

Internment of Invalid Prisoners in Switzerland

Mr MALCOLM asked the Secretary for Foreign Affairs when he expected to be able to fulfil his promise to publish and circulate the agreement under which invalid German and British prisoners of war would be sent to Switzerland and also the categories of diseases that would qualify prisoners for this transfer —Sir EDWARD GREY replied We hope to lay before Parliament the correspondence constituting the agreement very shortly

Mr MALCOLM also asked the right honourable gentleman whether the arrangements now arrived at between Great Britain and Germany for the internment in Switzerland of invalid prisoners of war were applicable alike to civilian and military prisoners —Sir EDWARD GREY answered The question of the inclusion of civilians in the arrangement arrived at between Great Britain and Germany for the internment in Switzerland of invalid prisoners of war is under consideration We already have an agreement with Germany for the repatriation of invalid civilians

Recruiting Medical Board at Ipswich

Replying to Sir EDWARD BEAUCHAMP, Mr TENNANT said Arrangements have been made for a recruiting medical board to assemble at Ipswich and to commence work there on May 29th It will sit daily on and after that date

Incapacitated Prisoners of War in Turkey

Captain CHARLES BATHURST asked the Under Secretary for War whether, in conformity with the practice adopted at Kut of exchanging sick and disabled prisoners belonging, respectively, to the British and Turkish armies, arrange ments could be made for releasing by way of exchange dis abled prisoners belonging to the Dorset Yeomanry and now in the hands of the Turks in Constantinople —Mr TENNANT answered An agreement has been reached with the Turkish Government for the reciprocal repatriation of incapacitated prisoners of war under the same conditions as have been in operation for over a year between this country and Germany, and it is hoped that this may be put into effect shortly

MONDAY, MAY 29TH

Sanitary Accommodation in Dublin Prisons

Mr DEVLIN asked the Prime Minister whether he would lay upon the table of the House of Commons the reports of the medical officers regarding the sanitary accommodation provided for, and treatment of, prisoners awaiting trial in the various prisons and hospitals under the military authorities in Dublin —Mr HERBERT SAMUEL (Home Secretary) replied The Prime Minister does not think it desirable to publish these reports, and his own experience of Ireland leads him to think that the sanitary accommodation of the prisoners is satisfactory

Steel Helmets and Head Wounds

Mr ANNAN BRYCE asked the Under Secretary for War whether steel helmets had now been provided for all the troops on the Western front, and if not whether instruc tions would be given that when troops leave the trenches they shall leave the helmets for the incoming troops —Mr TENNANT answered The supply of steel helmets has very nearly reached the number asked for up to the present and it is believed that sufficient has been issued for the needs of all British troops within the zone of shell fire in France As regards the latter part of the question, I think we may very safely leave the issue of such instructions to the general officer commanding in chief in whom we all have the highest confidence, rather than attempt to dictate to him from this House on matters obviously within his purview

Mr ANNAN BRYCE also asked whether the use of steel helmets had diminished, and if so to what extent the per centage of head wounds in British hospitals which about six months ago were 15 per cent —Mr TENNANT said in reply The percentage of head wounds to the total wounds in British hospitals in France from Feb 12th 1916 to May 15th, 1916 is 12 35

TUESDAY, MAY 30TH

The Medical Arrangements in Mesopotamia

Colonel YATE asked the Secretary for India when the report on the breakdown in the medical arrangements in

Mesopotamia would be published and whether the report would say who were the medical officers or other authorities in India responsible for the shortage of medical supplies —Mr CHAMBERLAIN replied The Commission has not concluded its inquiry, and I am unable to give any date for the submission of the report The terms of reference require the Commission to ascertain and assign the responsibility of individual officers for any inadequacy or failure of relief or shortage of personnel, equipment, vehicles, or stores

Watering London Streets

Sir STEPHEN COLLINS asked the President of the Local Government Board whether his attention had been called to the condition of many of the streets of London owing to the resolve of the various local authorities to discontinue the watering of the streets, whether he was aware that this neglect of a sanitary regulation was a peril to the health of the community, especially during the summer months when sometimes dense clouds of impure matter were blown about and inhaled by pedestrians and wafted into open windows, and would he take the necessary steps to impress upon local authorities the importance of finding some means to carry out the duty of watering and purifying the public thoroughfares —Mr HAYES FISHER (on behalf of Mr LONG) answered My right honourable friend has made some inquiry into this matter, but has not learnt that any metropolitan borough council has discontinued street watering In some cases street watering has been reduced from reasons of economy, and in more cases still from the difficulty in getting labour My right honourable friend has already made a statement of his opinion on the policy of reducing street watering

WEDNESDAY, MAY 31ST

Petrol for Medical Men

Replying to Sir THOMAS ESMONDE Mr PRETYMAN (Parliamentary Secretary to the Board of Trade) wrote The needs of medical practitioners are being borne in mind by the committee appointed by the Board of Trade for the purpose of considering the supply and distribution of petrol, and it is hoped that steps towards meeting the requirements of medical men generally as regards petrol may shortly be possible

Appointments.

Successful applicants for vacancies Secretaries of Public Institutions and others possessing information suitable for this column are invited to forward to THE LANCET *Office directed to the Sub-Editor not later than 9 o clock on the Thursday morning of each week such information for gratuitous publication.*

BARCLAY J B has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Lydbrook District of the county of Gloucester

ESTERMAN T M B Ch B St And House Surgeon at Leicester Royal Infirmary

FORSYTH R A M D Glasg Medical Officer to the Munitions Tribunal for the Bradford District which includes Bradford Skipton Shipley Otley and Keighley

HIDDEN R L.R C P Lond. M R C S Certifying Surgeon under the Factory and Workshop Acts for the Honiton District of the county of Devon

HOLLAND EARDLEY M.D Lond. F R C S Eng Assistant Obstetric Physician to the London Hospital

POTTER, AGNES ELLEN M D D P H Edin Assistant Medical Officer to Govan Combination Hospital Merryflatts

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor

ALL SAINTS HOSPITAL FOR GENITO-URINARY DISEASES Victoria London S W —Non resident House Surgeon chiefly for afternoon work Salary £100 per annum.

BELFAST MUNICIPAL SANATORIUM Whiteabbey —Temporary Assistant Resident Medical Officer for six months Salary £5 5s a week with board, &c

BOURNEMOUTH ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months Salary £150 per annum and extras with board &c

BRADFORD CITY OF —Two Temporary Female Medical Officers Salary [illegible] guineas per week

BURY INFIRMARY —Junior House Surgeon Salary £150 per annum with board &c

CHELSEA HOSPITAL FOR WOMEN Fulham road S W —House Surgeon unmarried Salary £[illegible] per annum

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL—Second House Surgeon Salary £1[illegible]0 per annum with board &c

DARLINGTON HOSPITAL AND DISPENSARY —House Surgeon Salary £1[illegible]0 to £2[illegible]0 per annum with board &c

DEWSBURY COUNTY BOROUGH —Female Medical Practitioner Salary £300 per annum &c

DOVER, ROYAL VICTORIA HOSPITAL.—House Surgeon unmarried Salary as arranged with board &c

DUDLEY GUEST HOSPITAL.—Assistant House Surgeon for six months Salary at rate of £120 per annum with board &c

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—House Physician for six months Salary at rate of £150 per annum with board &c.

GRAVESEND HOSPITAL.—Female House Surgeon Salary at rate of £200 per annum with board &c.

HASTINGS EAST SUSSEX HOSPITAL.—House Surgeon Salary £150 per annum with board &c

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST Brompton Assistant Resident Medical Officer Salary £100 per annum, with board, &c

HUDDERSFIELD ROYAL INFIRMARY —Senior House Surgeon and Assistant House Surgeon. Salaries £150 and £100 per annum with board &c

KING S COLLEGE HOSPITAL, Denmark Hill S.E —Assistant Obstetric and Gynæcological Surgeon.

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL.—Two Resident Medical Officers Salary £250 and £150 per annum with board &c

LONDON TEMPERANCE HOSPITAL, Hampstead road N W —Assistant Resident Medical Officer for six months Salary at rate of £120 per annum with board &c

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN Park place, Cheetham Hill road —Female House Surgeon Salary £120 per annum with board, &c.

METROPOLITAN HOSPITAL, Kingsland road N E —Surgeon for Diseases of Women

MIDDLESBROUGH NORTH ORMESBY HOSPITAL.—Assistant House Surgeon Salary £150 per annum with board &c or Senior Student, £100 per annum.

MUNITION FACTORIES —Medical Women required

NEW HOSPITAL FOR WOMEN Euston road N W —Female Senior Clinical Assistant to Out patient Department: also as Anæsthetist Salary £10 10s per annum Also Clinical Assistants Wednesday and Saturday afternoon.

PLYMOUTH SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon Salary £250 per annum with board, &c.

PRESTON ROYAL INFIRMARY —Resident Medical and Surgical Officer Salary as arranged

READING ROYAL BERKSHIRE HOSPITAL.—House Physician for six months Salary £250 per annum with board &c.

SHEFFIELD CITY HOSPITAL (INFECTIOUS DISEASES) —Assistant Medical Officer Salary £225 per annum with board &c.

SHEFFIELD ROYAL INFIRMARY —House Physician. Salary £120 per annum with board &c.

SUNDERLAND COUNTY BOROUGH.—Temporary Tuberculosis Medical Officer Salary £500 per annum.

THE Chief Inspector of Factories Home Office London S W gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Faringdon, Berks and at Tregaron Cardigan

Births, Marriages, and Deaths.

BIRTHS

BRIDE.—On May 23rd at Beechwood Eccles the wife of Lieutenant T Milnes Bride, R A M C of a daughter

GOOD —On May 23rd at Dobbs High Bickington N Devon the wife of Arnold S Good M R C S L R C P of a son

HAYDEN —On May 25th at Wymering mansions W the wife of Captain A F Hayden M.B F R.C S I M S (retired) of a son

HODDER.—On May 26th at Sandon road Stafford the wife of Lieutenant Colonel A. E. Hodder R.A.M.C (T) of a daughter

O CONNOR.—On May 29th at Alexandra mansions Chelsea, to Captain F W O Connor R A.M C (temporary) and Zella O Connor a daughter

MARRIAGES

BOLT—RINGLAND —On May 23rd at St Anne s Church Lewes Captain Richard Frank Bolt R A M C (T C) to Effie Lyndall younger daughter of the late W R Ringland of Belfast and Mrs Ringland of Lewes Sussex

HEY—BROWN —On May 23rd at the Wesleyan Chapel Darcy Lever Bolton Wilson H Hey F R.C S Eng Captain R A.M C to Elsie Brown M B Ch B

HILL—LANGRIDGE.—On May 23rd at Newmarket Rowland Hill M D M R C P Lond Temporary Surgeon R.N to Gertrude daughter of the late Arthur Langridge Leytonstone

DEATHS

ALEXANDER.—On May 26th at Poole-road Bournemouth West William Alexander M D in his 54th year

GOODHART —On May 2[illegible]th at Portland place W Sir James Frederic Goodhart Bart M D F R.C P aged 70 years

KIMBELL.—On May 2[illegible]th at a nursing home in London Lieutenant Harry John Sullings Kimbell R.A.M C

N B —A fee of 5s is charged for the Insertion of Notices of Births Marriages and Deaths

The following magazines, journals &c. have been received —Albany Medical Annals Pediatrics Journal of the Missouri State Medical Association Tropical Diseases Bulletin Monthly Bulletin of the Office International d Hygiène Publique Psychoanalytic Review Bulletin of the Johns Hopkins Hospital American Journal of Medical Sciences American Journal of Surgery American Journal of Roentgenology St. Mary s Hospital Gazette, St Thomas s Hospital Gazette American Medicine

Notes, Short Comments, and Answers to Correspondents.

MEDICAL NOTES ON HISTORICAL MANUSCRIPTS

FOLLOWING is the final instalment of these historical extracts The first two were published in our issues of May 20th and 27th

£100 for a Cure —Hugh Baylye to Sir Robert Cecil 1599 Oct —The charge which I have taken in hand for the cure of Mistress Frauncys Cecill that she should go well and perfect of herself now thanks be to God she is well and out of her instruments My bargain was when I took her in hand, to receive for the curing of her £100 I desire you therefore that I may be satisfied —Endorsed 1599 Oct For £100 for curing the Lady Fr Cecil."

A Dislocated Foot —Lord Cobham to Sir Robert Cecil 1599–1600 —On Sunday last my foot was put in joint, which being so long out and the party which set it thought skilful yet old and weak, that it was very near a whole hour before he could put in the bone Judge what pain I endured since the splinter which is of iron to keep the bone in must not be altered for 14 days and is so hard tied about my foot that the pain I now endure is very great besides the cold weather which increases it They assure me for my comfort that there is no blemish to my leg

Suspected Witchery —Jo Stileman to Sir Robert Cecil 1600 Sept 9 —Mr Amyce is a little amended and some hope of him Upon the examination of a notable witch which he had committed to the gaol at Hertford for her revenge did inflict her witchery upon him in such a manner that he was almost consumed to the bone His doctors could not tell what to make of it, the manner of it was so strange unto them. In the end he said he thought he was bewitched by that lewd woman he had before committed When I heard of it I sent presently to a woman that dwelt 12 miles from Waltham which I had heard of her skill in those matters She sent away presently to him with some things that he should take that night before he went to bed He presently on the receipt found an alteration in himself and that day at dinner he did eat more meat than he had done all the time of his sickness —From your Honour s house at Theobaldes 9 Sept. 1600

A Young Nobleman s Strange Illness and Death —Thomas Bilson, Bishop of Winchester to Sir Robert Cecil from Waltham 1601–2 Feb 24 —I am heartily sorry that my endeavour for the young Lord Burgh taketh no better success He complained of a crick in his neck on Thursday fortnight, and thereupon kept his chamber but without any apparent fever I sent for physicians who doubted the new disease in him, and thought it best to expect some declination of the heat which troubled him at times On Thursday night last he went to bed in reasonable plight and slept more heavily than he was wont I sent presently for as more learned physicians as Hampshire did yield and after some pause they doubted he was falling into a kind of lethargy This next Thursday is the seventh day since this heaviness oppressed him. How this disease should grow so strangely I cannot conjecture I have only noted that he desired to feed much on fat meats and have had many small combats with him to bring him from that diet, so that often he hath risen hungry from the table because I would not suffer him to feed on so oily and unctuous meats as he affected. His nimbleness of body made me least suspect a lethargy of all diseases and his sullenness when displeased made us nothing to doubt that event which afterwards showed itself The danger is greater if this collection of flux (?) and oily matter be fastened to the receptacles of the brain. If the matter be more tractable we conceive hope it may decline If not I can but rest pierced at heart for the loss of so noble an imp

From the Same to the Same 1601–2 March 1.—The sorrowful event of the young Lord Burgh s sickness could not choose but come to your ears afore this The physician whom his mother sent was here when he died and the lady herself within 14 miles I stayed therefore till the corpse were viewed by physicians and surgeons and laid in cereclothes that it might abide your directions for burial. In opening it they found the vital parts very sound and fair but the left side of the lung somewhat black and perished with a flux from his head which was the cause of his often cough The outward tunicles of the head they found clear and free from any corrupted phlegm only in the inward cells of the brain they found four or five spoonfuls of water and in the cell of the commonsense which lieth before the signs of the corruption which brake from him at the time of his death The physic used to him in the time of his sickness I would not suffer to be dangerous or desperate, but such as was warranted by their best books. On the 7th day his head began to burn and shoot, whereupon one of the physicians here thought good to lay a rose-cake with a little *oxyrhodanon* to his head. That night he slept well and the physician asked leave to depart till Sunday and prayed me against that day to have other physicians of Hampshire here to consider the child s case in common with him. That Friday the child rose and eat somewhat of a roasted warden and a spoonful of broth which he kept not long but gave it up again. The Saturday he continued desirous to sleep but because many children about us sick of this new disease did sleep three or four days and yet recovered so we mistrusted nothing When Dr Hilton physician of Winchester came, he thought good first to have his body cleansed with a suppository (for we doubted he would not receive a clyster without danger) and then to keep him awake and provoke him to bleed at the nose After dinner on Monday they began by all gentle and safe means to provoke him to sneeze and bleed at nose and hawk at mouth They gat him to sneeze often and strongly but could not effect aught else, though his broths and jellies were made to this end The Tuesday they thought good with "beazoer" to bring him into a gentle sweat which they did for an hour Wednesday they consulted whether they should let blood or no his pulse being good but while they were discussing the child fell into a swoon and lost the use of his right eye the lid shutting and never opening again. This put them from all opinion of taking blood but only to try whether by vapouring they could provoke any matter to come forward. In this case he lay till Thursday night that Dr Poo came from my Lady He put up the powder of castor with a nasale" and spirit of secke" with a syringe into the nose and palate at which the child exceedingly struggled but without result The physicians in my absence protested that this course would thoroughly sift him and send him one way or other which they had no commission to do save that he was a man trusted and sent by my Lady Friday towards 11 the child began to push out at mouth and nose a white matter and blood, and at the third or fourth plunge being held forward gave up the ghost There remaineth the disposing of his body which is in such case as it will stay these eight or ten months —From my house at Waltham 1st March 1601

Queen Elizabeth s Health —Sir Robert Cecil to Mr Nicholson March 9 1602–3 —I would not have you ignorant of those things which are like enough by bruit to pass into Scotland concerning matter of the nature whereof I now must write First it is true that till within these 10 or 12 days I never beheld other show of sickness in the Queen than such as is proper to age. Now her Majesty is free from any peril but, because all flesh is subject to mortality I must confess to you that she hath been so ill disposed as I am fearful lest the continuance of such accidents should bring her Majesty to future weakness and danger of that which I hope mine eyes shall never see Although she hath good appetite and neither cough nor fever yet she is troubled with a heat in her breasts and dryness in her mouth and tongue, which keeps her from sleep greatly to her disquiet. This is all, whatsoever you hear otherwise She never kept her bed but was within these three days in the garden

Sir Robert Cecil to Mr Secretary Herbert 1602, March 9 —It is very true that her Majesty hath of late for 8 or 9 days been much deprived of sleep which you know was ever wont to molsten her body and whenever she lacked it she was ever apt to be impatient This continuance for 9 or 10 days decays her appetite somewhat and drieth her body much wherein though she be free from sickness in stomach or head and in the day catcheth sleep yet I cannot but affirm unto you that if this should continue many months it promiseth no other than a falling into some great weakness or consumption which would hardly be recovered in old age other peril I assure you there is not, and therefore though I write the worst to you yet I pray you suppress all other vain bruits the best you can

Fleeing from the Plague at Amsterdam —The Council to Lord Cobham Lord Lieutenant of Kent and Lord Warden of the Cinque Ports, 1602, July 25 —They understand that the plague reigns very greatly in Amsterdam and that many of the inhabitants are retiring themselves into this realm and some already come with purpose to disperse themselves in the port towns and in London As the toleration of this access cannot but breed great peril Cobham is directed to have diligent watch kept in his Lord Wardenry and Lieutenancy to prevent their landing during the time of the infection there If any be already come into the towns they must be made to retire themselves into some quarters abroad in the fields the better to air themselves and remain until they have cleared themselves by the trial of 40 days

The Physicians of Padua.—Lord Buckhurst to Sir Robert Cecil 1602, Aug 20 —Now I must desire you humbly on my behalf to move her Majesty in a suit which I hope she will think reasonable just and charitable whereof I beg leave to use some little preface to the matter There hath been beyond seas for recovery of his health by her Majesty s license at Pont Amouson in Germany one of my sons these three years Her Majesty will remember him by the token that of all the children I had he was the finest and comeliest boy in nature with such a rare curled head as her Majesty pleased to take a very special liking of him but such was his misfortune as in a very great sickness he fell into a lethargy from which time he hath fallen into a distraction of his senses As for his cure by practice of physic and otherwise in England and abroad he hath cost me above £2000 but now having been these two years in Germany where I was put in hope some good effect should have followed I have about a month past received advertisement that after all my cost and so long a time consumed he is rather worse than better and so no hope of any good to come from that place Wherefore now I am resolved to send him to Padoa where I will commit him to a council of physicians there being assured that if by the skill and knowledge of physic he be to be cured that place above all the world doth yield the most rare and excellent physicians to perform it The time for his travel to Padoa is now betwixt this and Michaelmas and for that my son Thomas Sacvill who is so much devoted to the wars of Hungary hearing now of such preparations by the Turk against next summer doth again desire to put himself into that service as also for that by reason of a fall which he had from his horse in the camp at his last being there he hath had a long pain which is now much lessened but not fully cured and is put in great assurance that by the baths at Padoa the same will be recovered therefore he is willing at my desire to pass to that place of Germany where his brother is and so to pass to the Emperor s Court and there to remain this winter from whence he will from time to time advertise me of such occurrences as there are to be had I beseech you to move her Majesty for her license of travel for he must bring his brother from Pont Amouson to Padoa by Michaelmas [In a letter dated Nov 2, 1602, Lord Buckhurst informs Sir Robert Cecil of the arrival of the two brothers at Padoa.]

Foul Practice —Lord Zouche to Sir Robert Cecil —The cause of my writing is the pity of the bearer hereof one John Aston who is found a lunatic out of the Court of Wards by his wife s procurement, being once sick and in that sickness raving which woman having no children by him and finding that by his will he had not left her so much as she desired, took that occasion to procure a commission whereby to draw to herself all his goods since which time he has been so kept as it would have made a sound man lunatic. He got away by stealth to this place whom we would not believe till we had sent our letters to Mr Davis of this Council, commended for a wise and honest gentleman a copy of whose reply is enclosed, whereupon we took some further examination of the matter But the man s want of money and friends his dissolute life in loving drink and women have many times procured as evil speeches as from a lunatic which hath given them great colours to their foul device but if you will enquire into the matter you will find it a foul practice —Ludlow 5 Dec. 1602.

Lapis Malacensis —A Memorandum dated 1602—Lapis Malacensis or the stone of Malacca, so named because it is brought from Pam a province of Malacca in India. It is found in the gall of an Histrix or porcupine and is there esteemed a most singular remedy against all poisons Doctor Garcia ab Horto after he had remained 34 years in India, writ a learned book of all the simples and drugs of India, wherein he reporteth that in all his time there were but two found whereof one was bestowed upon the King of Portugal s Viceroy of India as a most rare and precious present This was of colour a pale purple smooth and glib bitter of taste and in consistence like unto a piece of dried cake soap and unctuous under the finger Doctor Dimas Bosque born at Valencia in Spain and then the Viceroy's physician in India, gave common water because no cordial water was at hand wherein the stone had been steeped until the water became very bitter unto two men which unawares had drunk poison whereby they were both delivered from danger of the poison. In India, therefore it is preferred far before the bezoar stone or unicorn s horn.—Lancelot Browne.

RECENTLY a girl travelling along the Strand on the top of a motor omnibus was burned to death through the lower part of her dress catching fire According to the evidence given at the inquest, a Canadian soldier and a member of the Royal Flying Corps made a plucky effort to extinguish the flames as soon as they could unbutton their tunics and throw them round the deceased, and the conductor did his best to assist with the omnibus aprons and a chemical extinguisher The material of the dress, however, which was described as "voile," was so inflammable that the flames enveloped the deceased immediately The top of an omnibus is evidently an awkward place for such an accident, as the first step to be taken on such an occasion, that of throwing the victim flat, would be difficult to accomplish and she might also be difficult to get near effectively The origin of the fire could not be ascertained, but there can be little doubt in the circumstances that this poor girl's death was caused by the abominable care lessness of a smoker in throwing down a lighted match or possibly but less probably, the end of a cigarette or cigar

"*Income Tax*"—It has been the general custom in the past to allow a medical man to deduct two thirds of the rent and taxes of his dwelling house and appurtenances if partly used for professional purposes when making his return for income tax. Assuming that our correspondent has only the necessary premises to carry on his practice with professional propriety, and does not, maintain a large establishment by his private income, he should press for the full two thirds allowance with the assessor, and appeal to the Commissioners if necessary It must be remembered, however, that the amount of the deduction is left to the discretion of the Commissioners to decide after due consideration of the particular circum stances, and that there is no *legal* deduction of two-thirds as suggested by our correspondent

J H S (*Athens Ga*)—The two units of the American Red Cross (E and F) detailed for service in Great Britain were recalled on Oct 1st, 1915 All other units have also been recalled, including that at La Panne, Belgium, although individual members of the American Red Cross are still serving Red Cross supplies are still being sent to the various countries and a supply depôt has recently been established in Egypt The American Women's War Hospital at Paignton, South Devon, remains in full swing under the care of Dr Penhallow and Dr Daniel We do not know the *locale* of an American ambulance corps in Europe, but the hospital known as the American Ambulance in Paris is well known

Medical Diary for the ensuing Week.

SOCIETIES

ROYAL SOCIETY OF MEDICINE 1, Wimpole-street, W

MEETINGS OF SECTIONS

Thursday, June 8th.

OBSTETRICS AND GYNÆCOLOGY (Hon Secretaries—Cuthbert Lockyer H Russell Andrews): at 8 P M

Specimens

Mr J D Malcolm: Strangulation of Fibromyomatous Uterus caused by Torsion of the Corpus Uteri on the Cervix

Dr F J McCann: (1) Case of Pregnancy in a Large Fibromyomatous Uterus (2) Soft Fibroma of the Paravaginal Connective Tissue

Short Communications

Dr H Russell Andrews: (1) Three Cases of Hæmatoma of Abdominal Wall; (2) Case of Primary Abdominal Pregnancy

Paper

Dr John Phillips: Acute Hepatic Toxæmias complicating Pregnancy and Labour

RÖNTGEN SOCIETY Institution of Electrical Engineers Victoria Embankment W C

TUESDAY—8 15 P M Annual General Meeting Paper:—Prof J W Nicholson: Homogeneity of White Radiation Exhibition of X Ray and Electrotherapeutic Apparatus. Demonstrations and Short Descriptions of New Apparatus will be given by the exhibitors

BRITISH OTO LARYNGOLOGICAL SOCIETY 11 Chandos-street Cavendish square W

THURSDAY—5 P M Meeting

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

POST-GRADUATE COLLEGE, West London Hospital Hammersmith, road, W

MONDAY—2 P.M., Medical and Surgical Clinics X Rays Mr Gray: Operations Mr B Harman: Diseases of the Eye Dr Simson: Diseases of Women.

TUESDAY—2 P.M. Medical and Surgical Clinics X Rays Mr Baldwin: Operations Dr Banks Davis: Diseases of the Throat, Nose and Ear Dr Pernet: Diseases of the Skin.

WEDNESDAY—10 A.M., Dr Saunders Diseases of Children Dr Banks Davis: Operations of the Throat, Nose, and Ear 2 P M., Medical and Surgical Clinics X Rays Mr Pardoe: Operations Dr Simson: Diseases of Women

THURSDAY—2 P M, Medical and Surgical Clinics X Rays Mr Gray: Operations Mr B Harman: Diseases of the Eye

FRIDAY—10 A.M., Dr Simson: Gynæcological Operations 2 P M, Medical and Surgical Clinics X Rays Mr Baldwin: Operations Dr Banks Davis: Diseases of the Throat, Nose, and Ear Dr Pernet: Diseases of the Skin.

SATURDAY—10 A.M., Dr Saunders: Diseases of Children Dr Banks Davis: Operations of the Throat Nose, and Ear Mr B Harman: Eye Operations 2 P M, Medical and Surgical Clinics X Rays Mr Pardoe: Operations

NORTH EAST LONDON POST GRADUATE COLLEGE, Prince of Wales's General Hospital Tottenham N

MONDAY—Clinics:—10 30 A.M. Surgical Out-patients (Mr E Gillespie) 2.30 P M, Medical Out-patients (Dr T R Whipham): Gynæcological Out-patients (Dr Banister) 3 P.M, Medical In patients (Dr R M Leslie)

TUESDAY—2.30 P.M Surgical Operations (Mr Carson) Clinics:—Medical Out patients (Dr A G Auld) Surgical Out patients (Mr Howell Evans) Nose Throat and Ear Out patients (Mr C H Hayton) Radiography (Dr Metcalfe) 3.30 P M., Medical In patients (Dr A. J Whiting)

WEDNESDAY—Clinics—2.30 P.M Throat Operations (Mr C H Hayton) Children Out patients (Dr T R. Whipham) Eye Out-patients (Mr R. P Brooks) Skin Out-patients (Dr H W Barber) 5.30 P.M. Eye Operations (Mr R P Brooks)

THURSDAY—2 30 P.M, Gynæcological Operations (Dr A. E Giles) Clinics—Medical Out patients (Dr A J Whiting) Surgical Out-patients (Mr Carson) Radiography (Dr Metcalfe) 3 P.M Medical In patients (Dr R M Leslie) 4.30 P M. Special Demonstration:—Dr G G Macdonald Aids in the Diagnosis of Disease by Clinico-Pathological Methods

FRIDAY—2.30 P M, Surgical Operations (Mr Howell Evans) Clinics:—Medical Out-patients (Dr A G Auld) Surgical Out patients (Mr E Gillespie); Eye Out-patients (Mr R P Brooks)

THE THROAT HOSPITAL Golden square W

MONDAY—5 15 P M., Special Demonstration of Selected Cases

THURSDAY—5 15 P M Clinical Lecture

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly W

MONDAY—5 P M General Meeting

FRIDAY—5 30 P.M Dr E Clarke: Eyesight and the War

CHADWICK PUBLIC LECTURES Town Hall, Ilford E

Course of Three Lectures on the Prevention of Disease and Frostbite in the Army

FRIDAY—8 P M Lecture I:—Professor S Delépine Process o Disinfection (illustrated by diagrams and lantern slides)

METEOROLOGICAL READINGS

(Taken daily at 8.30 a m by Steward's Instruments)

THE LANCET Office May 31st 1916

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb.	Dry Bulb	Remarks
May 25	29 570	S E	0·05	121	66	55	56	68	Raining
„ 26	29·890	W		122	65	49	50	55	Fine
„ 27	29·860	S W		93	65	49	50	56	Fine
„ 28	29 890	S W		129	70	51	53	68	Fine
„ 29	29 970	W		129	73	52	52	60	Fine
„ 30	30·004	N W	0 05	93	64	55	53	57	Cloudy
„ 31	30·136	S W		115	70	51	53	56	Fine

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An Address

ON

INJURIES OF THE EYE AND ORBIT

Delivered at the University of Malta before the Conference of Medical Officers Malta Command

By ARTHUR D GRIFFITH, M B,
B S Lond, F R C S Eng,

CAPTAIN R.A.M.C (T F) OFFICER IN CHARGE, MILITARY HOSPITAL, HAMRUN MALTA SPECIALIST IN OPHTHALMOLOGY MALTA COMMAND SURGEON ROYAL EYE HOSPITAL, LONDON

GENTLEMEN,—I feel that I owe you an apology for inviting your attention to a specialty My justification must be that ophthalmology is the specialty which more than others, presents grave problems in war—problems on the correct solution of which depend the future happiness and usefulness of the patient Injuries of the eye and orbit form a comparatively small proportion of the cases with which the oculist has to deal Analysing 350 consecutive cases from active service from my notebooks, I find that 25 per cent are cases of injury and 15 per cent are cases of a condition which is a rarity in peace practice, and which may be called "shock amblyopia " I shall refer to this condition in detail later Of the remainder the majority (40 per cent) are cases of error of refraction, including squint and the remaining 20 per cent includes such diverse conditions as conjunctivitis, pterygium, conical cornea old injuries, retinitis pigmentosa tobacco amblyopia nuclear ophthalmoplegia injuries to the visual cerebral cortex and many others

The cases of eye injury fall easily into two classes—those in which little damage has been done and useful vision will be retained, and those in which the eye is at once utterly spoiled, with a very small intermediate class A more useful classification, however, is the anatomical

CORNEA

Cases in which the cornea alone is injured are those of foreign body in the cornea and traumatic ulcers As to ulcer I shall say nothing beyond protesting against the use of cocaine in this condition It at once relieves pain but softens the corneal epithelium and renders it more susceptible to the attacks of micro-organisms Thus the use of this drug in cases where the forces of destruction and of repair are evenly balanced may decide that the former shall prevail and seal the fate of the eye

Foreign bodies in the cornea may be superficial, as are the majority lying in the corneal epithelium or penetrating the substantia propria for a short distance, or may be buried in the substantia propria or may be so deep as to project into the anterior chamber When superficial they are readily picked out with the point of a cataract needle, or, if that be not available, a sewing needle, or even the point of a penknife will do quite well The object is to remove the foreign body and not to remove corneal tissue, and when a small particle is neatly removed it should be impossible to see the wound For removing a foreign body buried in the substantia propria of the cornea two methods are available One method is to dig away corneal tissue until the particle is exposed This is easy but clumsy and leaves a crater which must be filled in part at any rate, by scar tissue which is opaque. The better method is to cut a flap of corneal tissue just so thick that when it is lifted up the particle is exposed and can be picked out with the needle point. The flap then falls back in place and the resulting scar is minimal

With very deep foreign bodies there is the risk that the most gentle manipulations may force the particle into the anterior chamber where it will be a grave menace to the eye and whence it will be very difficult to remove. The removal of these foreign bodies may be one of the most difficult operations in ophthalmic surgery, and should only be undertaken under the best conditions As illustrations of the methods which may be employed I will quote two cases

1 Private, aged 19 On Sept 1st 1915 near S—— a bomb burst in his trench and he sustained many superficial wounds There was a small foreign body nearly at the mid point of the right cornea It was very deep resting on Descemet's membrane but not projecting into the anterior chamber Under cocaine anæsthesia a bent broad needle was passed into the anterior chamber, and its point was made to support the foreign body from behind while a cataract needle, working from the front of the cornea, removed it

2 Private, aged 22 On Sept 18th, 1915, at A——, a bullet struck the sandbag parapet and sand was flung into his left eye A *transparent foreign body* (flint) the size of a pin's head projected into the anterior chamber Under cocaine anæsthesia the anterior chamber was opened by a bent broad needle at the corneo scleral junction, and a small sharp spoon was passed in behind the foreign body Counter pressure was applied to the front of the cornea by means of a curette, and the foreign body was removed in the spoon

IRIS

The two affections of the iris which concern us are iridodialysis and wound at the periphery of the anterior chamber with prolapse of the iris Iridodialysis, or rupture of the base of the iris, results from a blow on the eye or from the passage of a foreign body through the iris Iridodialysis is recognised, even when the basal rupture is small, by the flattening of the corresponding portion of the pupillary margin In the cases of non penetrating injury the condition is chiefly important by reason of the hæmorrhage into the vitreous which usually accompanies it Vitreous hæmorrhage, as seen in cases from active service is too extensive to hope for the degree of recovery expected in civil practice and the patients cannot, before reaching a base hospital, have the complete quiet that is desirable The end of these eyes is that when the hæmorrhage absorbs it leaves a more or less coarse web of opacity in the vitreous which greatly impairs vision Wounds at the periphery of the anterior chamber, with prolapse of iris, require early and thorough attention The prolapsed iris should be seized, drawn out and sheared off It is essential that the iris be cleanly cut, and that so much be drawn out that the edges retract clear of the wound in the cornea Unless these points be observed the cut edges will adhere to the scar and the eye will remain irritable for a long time, and so long as it is irritable the eye cannot be regarded as safe A second operation to free the adhesion will be difficult and probably unsatisfactory

LENS

Traumatic cataract is practically always due to the passage of a foreign body through, or its retention in, the lens Careful examination will reveal a scar in the cornea, often very minute The question arises Is the foreign body in the lens or has it passed through? If it is retained in the lens there is a possibility that by extracting the lens one may remove the foreign body and save a useful eye. Two examinations may assist to determine this point—examination of the field of light and localisation of the foreign body by means of X rays The first examination is carried out by projecting a pencil of light, by means of a mirror, into the eye from various directions the sound eye being covered The patient is directed not to move his eye and to point to the light If he can indicate promptly and accurately the direction from which the light is coming, and if his vision is at least equal to "shadows " it is probable that the mischief extends no further back than the lens Localisation by means of X rays I shall refer to later One of the first patients received in Malta from the Gallipoli Peninsula was a case of lens injury

Private, 1 5th Royal Scots. Was in the original landing at Cape H—— on April 25th, 1915 when something struck his left eye He did not know what struck him as he was unconscious for about three hours Since then this eye had been defective I saw him on May 6th and found a scar at the corneo-scleral junction above The corresponding segment of the iris was wanting the lens was absent, and the pupil was occupied by opaque capsule in which was a good central opening The picture was precisely that of an eye on which a satisfactory cataract extraction had been performed There was no other abnormality I was too busy then to estimate his error of refraction but with my 13 ophthalmoscope he read the second hand of a watch, and I have no doubt that with a suitable lens his vision would have been perfect It was evident that the blow had caused the rupture of the cornea and of the lens capsule, and driven the lens out of the eye

FUNDUS

Injuries of the retina, choroid, and optic nerve I will only briefly mention The series include 8 cases of detachment of the retina. This is produced by a comparatively light blow on the eye or by concussion of the eye from the passage of a bullet in its neighbourhood These cases all

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In border line cases where one is in doubt the tendency should be to remove the eye. I would rather remove many damaged eyes unnecessarily than allow one patient to become blind through my fault I have already indicated that in watching a doubtful case the appearance of fresh, or the non subsidence of existing, signs of inflammation are indications for removing the eye With regard to the sound eye the signs to look for especially are photophobia, lacrymation, and circumcorneal injection These constitute the clinical picture of "sympathetic irritation" This is not an early stage of sympathetic cyclitis, and may indeed be produced by so common and trifling an accident as the lodgment of a foreign body under the upper lid, but it is an indication that all is not well with the other eye, and is therefore a most valuable danger signal An examination which should always be made of the sound eye when its fellow is on probation is the measurement of the shortest distance at which the eye can read small type If this "near point" is found to recede it indicates paresis of accommodation, and this is *often the earliest sign* of sympathetic cyclitis

Except that it may carry micro-organisms a foreign body does not in itself cause sympathetic trouble, but if it be retained there is the added factor of the irritation due to its presence, and it is reasonable to suppose that this may determine that a small dose of organisms, which the eye might otherwise dispose of, may establish themselves From this point of view it is important to know whether a wounded eye contains a foreign body In some cases it is possible to see the foreign body on ophthalmoscopic examination, in the majority it is necessary to employ localisation by means of X rays The most satisfactory method of localising metallic particles in the eye by X rays is to make a *stereoscopic pair of pictures and to* estimate the position of the foreign body in relation to a known body, which is in *some known relation* to the eye by measuring the relative displacements of the shadows of known and foreign bodies (Here followed a description of the apparatus used) Whatever method is adopted it is essential that meticulous care be taken over all measurements and adjustments Above all it is necessary that the patient do not move his eye during the examination

A retained foreign body having been demonstrated it must be decided whether the eye will tolerate its presence or not The degree of irritability of the eye (circumcorneal injection, photophobia, lacrymation) and the amount of inflammatory reaction in the neighbourhood of the particle, if it can be seen assist in the decision If the foreign body cannot be seen the examination of the *field of light* is of assistance As a rule the farther back in the eye the better is the foreign body tolerated, and *one fixed* in the retina is better tolerated than one in the vitreous

If it be decided that the particle will *not be tolerated* the alternatives are removal of the particle and removal of the eye It is unfortunate that the *majority* of metallic foreign bodies met with in war injuries are composed of lead so that they cannot be removed by the electro magnet which is the only method at all satisfactory On the other hand, lead is less soluble and less irritating than iron and is therefore better tolerated Iron particles retained in the eye even if tolerated for a time usually cause its eventual degeneration

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REMOVAL OF EYE *METHODS OF OPERATION*

The subject of sympathetic cyclitis is a very difficult one, and when everything has been said about it the thing which most impresses me is the maxim "One good eye is better than two bad ones" If it is decided to remove an eye there are two ways of doing this—by excision and by some form of evisceration In removing an eye which is dangerous from the point of view of sympathetic cyclitis the object is to remove the uveal tract, which is the source of infection This is done with certainty by excising the globe, and it is sometimes wise to do this The disadvantages of this operation are that there is some risk (a small one, I think) of infecting the meninges from a septic conjunctiva, and that the stump resulting does not well support an artificial eye

The old operation of evisceration consists in making a stab incision into the globe just behind the ciliary zone—that is, about 7 mm. from the obvious corneo scleral junction, completing a circular incision through all the coats of the eye with scissors, and turning out the contents of the sclera. After this operation healing is sometimes delayed because the cut edge of the sclera is exposed and sloughs Also if the stump is sutured there is often a pretty severe reaction To obviate these defects an operation has been devised which consists in dissecting conjunctiva Tenon's capsule, and muscles off the globe, removing the cornea, turning out the contents of the sclera, and then cutting away the sclera except for a small frill around the optic nerve This is probably the safest operation, but it has still the disadvantage of leaving a poor stump If the old operation be compared to the "no flap" circular amputation which has been performed on war injuries of the limbs, the operation just described may be compared to an amputation with a long flap and almost no stump

The operation which I have been performing in the majority of these cases is an amputation of the anterior part of the eye, leaving the longest stump which can be covered by the flap of conjunctiva. Conjunctiva and Tenon's capsule are divided circularly, going behind the wound if possible, otherwise excising it These membranes are turned back as a cuff for at least 1 cm, and the anterior part of the eye amputated at this level or farther back *if that is rendered* necessary by a scleral wound The contents of the sclera are turned out and every trace *of choroid removed* by means of gauze mops held in pressure forceps If the conjunctival sac was clean the conjunctiva is closed by three sutures If it is thought desirable to drain the cavity this is done by a wisp of gauze and a *long suture* inserted in the conjunctiva, which is tied at the end of 24 hours when the drain is *omitted* Healing occurs in about five days, there is no reaction and a good movable stump results

An operation which has some place in war ophthalmology is exenteration of the orbit This consists in removing the whole of the contents of the orbit except the periosteum The object is to provide the fullest possible drainage for the orbit I have done this in two cases

1 Private Otago Battalion N Z E F On August 8th 1915 he was struck in the right eye by a rifle bullet On the 10th, on a hospital ship, the eye was excised He was admitted to H—— Hospital on the 16th The wound of entry was at the root of the nose, the wound of exit was in the right temple 1 inch behind the external angular process of the frontal bone The lids were greatly swollen and the orbital contents were very sloughy Next day his temperature was 103 4°, and on examining the orbit there was what *appeared to be* gangrenous brain at the apex This, an error of observation proved to be sloughy ocular muscles Exenteration was performed, and it was found that in addition to the exit hole in the outer wall of the orbit there were fractures of the roof floor, and *inner wall* The subsequent history is of interest The orbit remained perfectly clean and the temperature settled, but 11 days after operation there was a rigor with the temperature rising to 105°, and the right side of the head was œdematous Next day the œdema was more marked and there was tenderness over the jugular vein on that side A diagnosis of thrombosis of the cavernous sinus was made and the question of performing a craniectomy was discussed I decided to wait for another rigor but this *did* not occur and the condition cleared up At a later date the cavity was covered with Thiersch skin grafts and a soundly healed socket resulted

occurred in the first two months of the campaign I am not hopeful of any benefit resulting from treatment in these cases Similar injuries may produce hæmorrhage into the retina Concussion of the eye is also liable to produce a pigmentary degeneration of the retina which especially affects the central, macular, region, and I have seen one case of the curious condition described as "hole in the macula" Rupture of the choroid is caused by similar injuries, and all these conditions may be found in the same eye

Atrophy of the optic nerve may be produced in several ways The commonest method is for a blow in the neighbourhood of the orbit to produce a fracture which runs into the optic foramen This may cause either rupture of the nerve, in which case blindness is instant, or its slow destruction by contraction of scar tissue or pressure of callus In this type the only signs are the dilated pupil, inactive to direct light stimulus and the atrophy of the disc Secondly, a bullet traversing the orbit may divide the nerve Thirdly, a bullet entering the orbit may so dislocate the eye as to rupture the nerve In the last two cases the atrophy of the nerve will usually be associated with hæmorrhages in the neighbourhood of the nerve head and other fundus lesions.

BLINDNESS

The series includes 6 cases of blindness (I regard as "blind" any case in which the vision is reduced to perception of hand movements or less)

1 An officer at St A—— Hospital Both eyes were ruptured by a bullet passing transversely

2 An officer at B—— S—— Hospital The right eye had been excised on a hospital ship for rupture , the left eye had almost total detachment of retina I was anxious that he should be given the slender chance of regaining some vision by being kept flat for several weeks, rather than undergo the disturbance of transport and possible sea sickness, but he was very anxious to get home and was sent to England

3 At R N Hospital, B—— The left eye had been excised for rupture , the right eye showed simple optic nerve atrophy probably due to a fracture into the optic foramen

4 Private, at St A—— Hospital He had been struck on the left side of the face by fragments of a hand grenade Both retinæ were detached

5 Private, at H—— Hospital A bullet had traversed the back of both orbits, and both eyes were proptosed, blind, and disorganised

6 Private, at B—— Hospital A similar condition, both orbits having been traversed by a bullet

SHOCK AMBLYOPIA

Shock amblyopia, or shock amaurosis is the name which may be applied to diminution or loss of vision following a shock in which no structural change is produced in the eye or optic nerve The shock is usually from the explosion of a shell or grenade near the patient, and at first I called the condition "shell amblyopia," but it may be due to other causes , one case followed a kick on the head by a mule A typical history is that the patient was in a fire trench and a shell burst a few yards away , thereafter the sight in one or both eyes was blurred The patient is usually knocked down by the explosion, but is often not unconscious One can distinguish four conditions

1 Transient blindness from over stimulation of the retinæ In this condition the patient sees a flash of light from the shell burst, and afterwards sees only a grey or purple haze This is an exaggeration of the normal exhaustion of the retina from exposure to light It is usually recovered from completely, but one sometimes finds fine degenerative changes at the macula, such as one is familiar with in "electric ophthalmia" and "eclipse amblyopia"

2 Blindness from closure of the lids In this condition the over stimulated retinæ are hyperæsthetic, and the patient endeavours to protect them from light by a vigorous blepharospasm If the lids are forcibly opened the vision is found to be little affected The photophobia may be recovered from in a few days or may persist for months

3 True amblyopia There appear to be two types of this condition In one the loss of vision is partial and the recovery is steady and gradual In the other type there is usually total blindness of one or both eyes which remains unaltered for a time and is recovered from either rapidly or instantaneously Some cases of the latter type have been treated with success by suggestion

In one such case of one sided amaurosis I put the sound eye under the influence of atropine and found that the patient continued to read books with his blind eye although he averred, and firmly believed, that he could not distinguish light from dark with it Some days later I examined his vision at the test types and found that his vision in the good eye, under atropine, was 6/18 (There was a low degree of hypermetropia) Covering the good eye, the vision was "No perception of light" I then uncovered both eyes and placed before the good eye a plus lens sufficiently high to fog it completely The vision with both eyes was still 6/18 I succeeded in demonstrating the fallacy to the patient, and he then read 6/18 with his previously blind eye He was even more pleased with this result than I, and I am convinced that he was not malingering I then omitted the atropine, and it was interesting to note that as the vision in the atropinised eye improved the vision in the amblyopic eye improved, until both were normal

4 In a few of these cases an eye which formerly could see perfectly without a glass now requires a plus lens to bring the vision to the normal The explanation of these cases must be that a hypermetropia which formerly was overcome by an effort of accommodation, and so latent, has become manifest This would appear to be a muscular asthenia localised to the ciliary muscle

From a consideration of the cases in which the defect is unequal in the two eyes one may arrive at the following conclusions 1 If the shell burst to one side of the patient the eye on that side is likely to be more affected 2 If one eye was struck by a fragment of shell or earth that eye is likely to be more affected 3 If one eye had a greater error of refraction than its fellow it is more likely to be affected Allied to this condition are the cases of cured squint recurring after an explosion

WOUNDS OF THE GLOBE

Wounds of the globe present the most important and the most difficult problems because of the possibility of the occurrence of sympathetic inflammation—i e , a cyclitis occurring in an eye as a result of a wound of its fellow It is tolerably certain that sympathetic cyclitis is never caused by a non penetrating injury In connexion with wounds of the globe one has to answer the question Is this eye a danger to its fellow? If it is decided that an eye is dangerous it should be removed as early as possible Although sympathetic trouble never develops within ten days of the injury, and rarely within three weeks, a considerable portion of this period of grace has already elapsed by the time the patient arrives in Malta. It is impossible to dogmatise on this subject, but it is helpful to remember that the two conditions which are especially liable to lead to sympathetic cyclitis are wounds in the ciliary region and wounded eyes which are shrinking

Although it has never been proved, it is extremely likely that sympathetic cyclitis is due to a micro organism presumably one which has a special liking for uveal tissue If this be so it is easy to understand that the chief consideration in deciding whether an eye is dangerous or not is whether it is inflamed or quiet In certain groups of cases the decision to remove the injured eye or to spare it is easy to make In this connexion I may quote two cases of somewhat similiar injuries

1 Corporal R M L I under the care of Fleet Surgeon Bishop at R N Hospital B—— On April 25th 1915, he was struck in the face by several fragments of a hand grenade Fleet Surgeon Bishop removed a splinter of steel 1 inch in length, from the right outer canthus I examined the fundus and found a clean wound of retina and choroid behind the equator in a position corresponding to that of the foreign body The vision was 6/6 the eye was quiet, and there was no doubt that it was a sound eye

2 Private 19th Battalion Manchester Regiment On Oct 18th, 1915 a hand grenade exploded near him and he was struck in the left eye He went to the Field Ambulance where a spicule of metal was removed from the eye The medical officer sent him to the base with some excellent notes and a letter in which he expressed the hope that the eye might be saved I saw him on Nov 12th and found a scar concentric with the limbus and 6 mm from it The vision was reduced to perception of light the tension was −3 and the eye was irritable There was in this case not the least doubt that the eye was dangerous and should be removed

If one eye is ruptured it should be removed If both eyes are ruptured as a rule they should be left There is no question of further damage from sympathetic trouble and it is kinder to allow a blind man slowly to realise the calamity which has befallen him than to convert the faint hope of some return of vision, which he cherishes into the certainty of blindness by removing the ruins of his eyes If a wounded eye is blind it should be removed If a wounded eye has poor vision and is irritable, especially if it is soft, and still more if it is tender it should be removed. If a wounded eye has good vision but is irritable it should be watched and given an opportunity to quiet the period allowed bearing some relation to the degree of vision it possesses

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The subject of sympathetic cyclitis is a very difficult one, and when everything has been said about it the thing which most impresses me is the maxim "One good eye is better than two bad ones" If it is decided to remove an eye there are two ways of doing this—by excision and by some form of evisceration In removing an eye which is dangerous from the point of view of sympathetic cyclitis the object is to remove the uveal tract, which is the source of infection This is done with certainty by excising the globe, and it is sometimes wise to do this The disadvantages of this operation are that there is some risk (a small one, I think) of infecting the meninges from a septic conjunctiva, and that the stump resulting does not well support an artificial eye

The old operation of evisceration consists in making a stab incision into the globe just behind the ciliary zone—that is about 7 mm. from the obvious corneo-scleral junction, completing a circular incision through all the coats of the eye with scissors and turning out the contents of the sclera. After this operation healing is sometimes delayed because the cut edge of the sclera is exposed and sloughs Also if the stump is sutured there is often a pretty severe reaction To obviate these defects an operation has been devised which consists in dissecting conjunctiva Tenon's capsule, and muscles off the globe removing the cornea, turning out the contents of the sclera, and then cutting away the sclera except for a small frill around the optic nerve This is probably the safest operation but it has still the disadvantage of leaving a poor stump If the old operation be compared to the "no flap" circular amputation which has been performed on war injuries of the limbs, the operation just described may be compared to an amputation with a long flap and almost no stump

The operation which I have been performing in the majority of these cases is an amputation of the anterior part of the eye, leaving the longest stump which can be covered by the flap of conjunctiva. Conjunctiva and Tenon's capsule are divided circularly, going behind the wound if possible otherwise excising it These membranes are turned back as a cuff for at least 1 cm, and the anterior part of the eye amputated at this level, or farther back if that is rendered necessary by a scleral wound. The contents of the sclera are turned out and every trace of choroid removed by means of gauze mops held in pressure forceps If the conjunctival sac was clean the conjunctiva is closed by three sutures If it is thought desirable to drain the cavity this is done by a wisp of gauze and a long suture inserted in the conjunctiva which is tied at the end of 24 hours when the drain is omitted Healing occurs in about five days, there is no reaction and a good movable stump results

An operation which has some place in war ophthalmology is exenteration of the orbit This consists in removing the whole of the contents of the orbit except the periosteum The object is to provide the fullest possible drainage for the orbit I have done this in two cases

1 Private Otago Battalion N Z E F On August 8th 1915 he was struck in the right eye by a rifle bullet On the 10th on a hospital ship the eye was excised He was admitted to H—— Hospital on the 16th The wound of entry was at the root of the nose, the wound of exit was in the right temple, 1 inch behind the external angular process of the frontal bone The lids were greatly swollen and the orbital contents were very sloughy Next day his temperature was 103 4° and on examining the orbit there was what appeared to be gangrenous brain at the apex This an error of observation proved to be sloughy ocular muscles Exenteration was performed and it was found that in addition to the exit hole in the outer wall of the orbit there were fractures of the roof floor and inner wall The subsequent history is of interest The orbit remained perfectly clean and the temperature settled but 11 days after operation there was a rigor with the temperature rising to 105°, and the right side of the head was oedematous Next day the oedema was more marked and there was tenderness over the jugular vein on that side A diagnosis of thrombosis of the cavernous sinus was made and the question of performing a craniectomy was discussed I decided to wait for another rigor but this did not occur, and the condition cleared up At a later date the cavity was covered with Thiersch skin grafts, and a soundly healed socket resulted

2 Private, 7th Battalion Royal Munster Fusiliers On August 17th, 1915, he was lying in the open, firing and a grenade exploded close to his right side He was admitted to H—— Hospital on the 27th There was a large irregular wound of entry at the middle of the right supra orbital margin, no wound of exit The right eye was blind, much proptosed, and practically immobile The conjunctiva was chemosed below X ray examination showed two large foreign bodies, one in the orbit, behind the eye, and the other in the frontal sinus The orbit was exenterated and the frontal sinus, which was in communication with the orbit and had dura mater exposed in its posterior wall, was freely opened and drained into the orbit The subsequent progress was uneventful

When the bullet entering the orbit traverses the brain the orbital condition is, of course, of minor importance (Slides were shown of the brain of a patient who was struck by a rifle bullet at the inner side of the right orbit The bullet left the orbit at its apex, where there was a large hole in the sphenoid, traversed the brain, and made its exit above the right ear The patient died on the day after admission) Reference has already been made to the injuries to the optic nerve and retina produced by the passage of a bullet through the orbit (Slides exhibited showed typical fundus pictures of the lesions produced)

THREE CASES OF FOREIGN BODY IN ORBIT

I will quote three cases of foreign body lodged in the orbit in which the eye was spared Of these the first was under the care of Colonel Charters Symonds to whom I am indebted for permission to quote it The other two were under my care at H——

1 Private, 5th Wiltshire Regiment On August 15th, 1915, he was struck in the right side of the face by a rifle bullet There was a wound of entry ½ inch below the right malar bone no exit The patient complained of nothing until two days later, when the left eyelids swelled On the 28th there was marked proptosis of the left eye with moderate chemosis of the conjunctiva The upper lid was much swollen The ocular movements were much restricted in all directions except down There was diplopia in all directions The pupil and fundus were normal No accurate estimation of the vision was made, but this seemed to be perfect In the succeeding days the proptosis increased and there was much pain On Sept 2nd Colonel Symonds exposed the outer wall of the orbit in the left temporal fossa and opened it with a chisel On incising the orbital periosteum the point of the bullet was seen and it was readily removed The wound was drained and, except for the drainage opening, healed primarily After the operation the eye at once receded, and three weeks later the ocular movements were nearly normal and there was little diplopia

2 Trooper, Otago Mounted Rifles, N Z E F On August 9th, 1915 he was struck by a rifle bullet in the right side of the head He was admitted to H—— Hospital on the 16th There was a wound of entry in the right temple, 2¼ inches behind the external angular process of the frontal bone and 2 inches above the zygoma no exit wound There was slight proptosis and slight chemosis of the conjunctiva below The lower lid was swollen and tender There was diplopia to the right and below X ray examination showed the bullet lying obliquely in the floor of the orbit On the 26th the orbit was opened through an incision along the infra-orbital margin and the bullet found halfway back on the floor of the orbit and readily removed Recovery was uninterrupted and two months later the ocular movements were perfect there was no diplopia, and the vision had improved to 6/9

3 Lance Corporal 27th Battalion A I F On Oct 7th, 1915 he was in a fire trench when a shrapnel burst over head and he was struck by a ball He was admitted to H—— Hospital on the 13th There was a wound of entrance at the nasion no exit wound The left eye was blind and much proptosed and there was a great deal of chemosis The eye was directed up and a little out and almost immobile X ray examination showed a shrapnel ball far back in the orbit in its inner wall In the next ten days the conjunctiva became cleaner and the proptosis diminished On the 23rd an incision was made through the conjunctiva on the inner side of the eye and the inner wall of the orbit exposed A large fragment of loose bone was removed and on full retraction of the eye the ball was seen lying in a cavity in the posterior part of the ethmoid and removed No sutures were used The wound healed rapidly and some vertical movement of the eye was regained (A diagram of the fundus condition was shown) There was simple atrophy of the optic nerve several hæmorrhages in the neighbourhood of the disc and a large triangular area of atrophy of retina and choroid to the inner side where these coats were bruised by the ball His left eye although blind, is better than an artificial eye

Presidential Address

ON

DISEASES OF THE THROAT NOSE AND EAR, AND THEIR TREATMENT IN HUNTER'S TIME

Delivered before the Hunterian Society

BY W H KELSON, M D LOND,
F R C S ENG,

SURGEON TO THE LONDON THROAT HOSPITAL, ETC

GENTLEMEN,—When looking up the subject of this address I was at first afraid that I had, in vulgar parlance "bitten off more than I could chew " There seemed for this period to be plenty of accounts of visceral diseases and of the physicians treating them, of obstetric matters, and of great surgeons removing limbs, &c , with extraordinary rapidity and skill, yet the accounts of diseases of the regions chosen appeared distinctly sparse, and in the case of the larynx practically nil, the laryngoscope not being in use at this period However, descriptions have been found of affections of these parts by Fothergill, Cheselden, Pott Huxham, Bell and Sharpe, amongst others and from these writings this lecture has been largely borrowed. Owing, I take it, to the physicians, surgeons, and obstetricians then being the predominating powers a somewhat curious colouring is given to the descriptions throat, nose and ear diseases being frequently compared with those of the rectum, vagina, and urethra, and a suppurating ear likened to gonorrhœa.

DISEASES OF THE THROAT

Let us first take the throat

The Tonsils

A surgeon writes that the tonsils or amygdalæ may be in an enlarged state a condition in general termed a scirrhosity of the tonsils but this he thinks is not a good term, as except for their firmness they have no characteristics of a scirrhus They are, however, very apt to inflame, and the additional bulk may produce nearly a total obstruction to the passage of food and drink The author states that he has never known an enlarged tonsil become cancerous, and another contemporary surgeon says that this is the only tumour of a scirrhus kind which does not return on removal

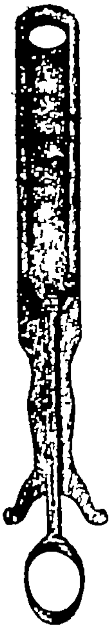
As regards treatment when the enlargement is so great as to interfere with the passage of food and air there should be no hesitation as to operation After discussing the repeated application of the cautery, excision with the scalpel and with the crooked scissors these are looked upon less favourably than removal by the ligature This should consist of soft silver wire or catgut passed through a crooked double cannula which is introduced through the nose and the ligature then adjusted round the tonsil by means of the fingers in the mouth , the cord being made tighter from time to time, the swelling will soon fall off

It is advised that the ligature be passed through the nose to avoid the inconvenience caused by it and the cannula hanging out of the mouth during the cure Both tonsils are generally enlarged, but the removal of one may suffice to give the necessary opening for the food but when it is found desirable to remove both they should be operated upon separately Any inflammation produced by operating upon the first is allowed to subside before any attempt is made to remove the other A similar method with cannula and ligature is recommended for the removal of other tumours of the pharynx and œsophagus Where the tumour is not pendulous but has a very broad base it may be necessary to pass a needle threaded with a double ligature through it and tie each half separately If the tumour does not fall off by the first ligature another must be applied, and the process continued till the cure is complete

Extirpation of the Uvula

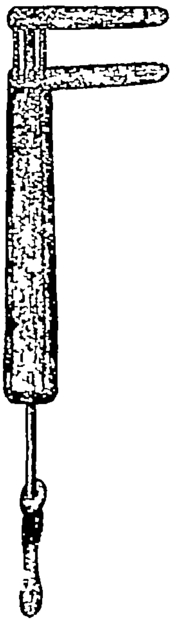
A sligh enlargement of the uvula should be treated with strong infusion of red rose leaves Peruvian bark or ca- bark with a due proportion of alum or vitriolic acid When however these fail and the tumefaction of the uvula is so considerable as to create much uneasiness in the throat with coughing, retching, or vomiting, extirpation must be performed (Fig 1.) This should be by excision or ligature. Where this structure is simply elongated excision should be performed with a curved, probe pointed bistoury or scissors the mouth being kept open by a speculum ons (a kind of gag) (Fig 2) If hæmorrhage supervenes it may be checked by an astringent gargle, ardent spirits, or lunar caustic If the uvula, on the other hand, be thick and fleshy, it should be removed by ligature for fear of hæmorrhage, and this may be passed through either the nose or mouth, as in removal of the tonsils

FIG 1.*



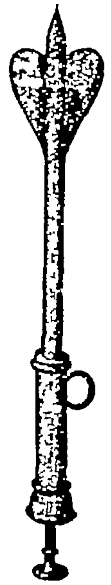
Uvula guillotine (Bell, plate lll., Fig 1) Scale ½

FIG 2.



Gag (Bell plate llv, Fig 1) Scale ½

FIG 3



Tongue depressor with concealed knife for scarifying tonsils and pharynx (Bell plate llll Fig 1) Scale ⅜

Scarifying and fomenting are recommended in inflammatory conditions of the amygdalæ and adjacent parts and an instrument consisting of a tongue depressor with a concealed knife blade is shown (Fig 3) , also a can with a flexible tube attached for the inhalation of steam

"*Sore Throat with Ulcers* '

A physician writes that about this period a disease came prominently under notice termed sore throat with ulcers, or malignant ulcerous sore throat It appears to have been first noticed in Spain, Italy, Malta and other countries bordering the Mediterranean in the seventeenth century , now (1747) it seems to have taken up its abode in England being especially active in the autumn and early winter It generally attacks children, and more often girls than boys It appears to be intensely infectious and if the healthy are not kept apart from the sick, they apparently receive the disease by means of the breath

The disease generally comes on with giddiness and shivering like an ague fit followed by great heat , also great pain in the head heat and soreness of the throat, stiffness of the neck, purging and vomiting, and intermittent sweating On examination of the mouth and throat the uvula and tonsils appear swelled and the palate cheeks, and pharynx are of a florid red colour which affects also the tonsils themselves Instead however of the redness a broad patch irregular in shape and of a pale whitish colour, may be seen surrounded by florid red. The second or third day the white places become more ash coloured and it may be seen that really a slough is present concealing an ulcer All parts of the fauces are liable to these ulcerations but they most materially affect the tonsils and parts immediately above them also the pharynx behind, the inside of the cheeks, and base of the tongue are common situations The ulcers may be superficial or deep The parotid glands become hard and swollen, and great swelling of the neck may occur

Pimples appear on the arms, face and hands and other parts appear of a deep red colour The uvula and tonsils are sometimes so much swelled as to leave but a very narrow entrance into the gullet, this entrance being frequently surrounded with ulcers or sloughs The patients often complain early in the disease, before ulceration sets in, of a putrid smell appearing to emanate from the throat and nostrils, which latter as high up as can be seen appear of a deep red colour, and a thin, irritating, bloody discharge may come from there and from the mouth Free bleeding from the nose at the beginning of the disease is common , in fact, hæmorrhage from the nose and mouth may prove fatal The disease generally appears at its height about the third day

As to treatment, bleeding and purging cannot be recommended as they only do harm The ulcers in the throat must have watchful attention, but the sloughs should not be detached with a probe as they only re form Stimulating aromatic gargles are strongly recommended, with antiseptics and detergents—sage tea, vinegar, tincture of myrrh , also the injection of liquids containing these medicaments with a small syringe is advised This must be assiduously repeated, as great stress is laid on the danger of putrid materials passing into the stomach Should hæmorrhage come on from the throat or nose clysters should be given and vinegar applied if possible to the bleeding spot and the patient kept in the sitting posture or the head well raised, and the upper parts kept cool If these methods do not immediately take effect we are advised to have recourse to the more efficacious ones amongst which we may rank the bark and opium

DISEASES OF THE NOSE

Passing on to affections of the nasal cavities, these are divided into hæmorrhages from the nostrils, ozæna, imperforated nostrils, and polypus excrescences

Hæmorrhages from the Nose

After stating that hæmorrhages from the nose are generally but of very little importance, the author says that in some instances the reverse is the case, and bleeding from these parts may be highly embarrassing to practitioners and very hazardous to patients In slight cases the sufferer should be placed in a large apartment with cold air passing through it his food and drink should be cold, he should bathe the face with cold water and vinegar, and gargle a solution of alum whilst cold compresses are applied over the nose A return of the hæmorrhage should be prevented by a moderate use of cooling laxatives and a low regimen

In severe cases, however, pressure must be resorted to but when the source is deeply seated this may be both difficult and uncertain A dossil of lint may be pushed up but much reliance cannot be put upon this method A better way is to insert by means of a probe or director a piece of hog s gut tied at one end so as to form a tube This should be pushed along through the nose to the upper part of the pharynx This instrument should now be filled with cold vinegar or water by means of a syringe inserted into the end hanging out of the nostril which should afterwards be secured by a firm ligature If this is not effective it is recommended to try an instrument resembling Bellocq's sound by means of which bolsters of lint are introduced into the posterior nares

O æna

Ozæna is described as a name specially applied to foul ulcers of the nose discharging a fœtid matter Caries is usually present. The chief cause is cold, but external violence and irritating substances may also produce this condition

When the system is not affected by any other disease, this is the most simple form of ozæna and astringent applications must be relied on chiefly, such as decoction of walnut leaves Peruvian or oak bark with solution of alum also brandy or any other ardent spirit and lime water These should be applied three times a day on dossils of lint pushed up as far as is necessary and at bed time ointment containing calcined zinc or lapis calaminaris should be used By persistence in these means every ulceration depending on local affection will be at last removed but the running produced by other diseases, especially matter in the maxillary antrum, may resist every effort made for its removal This affection is referred to by John Hunter himself in his practical treatise on diseases of the teeth, and it is advised that the matter be evacuated either through a tooth socket or the canine fossa The nasal route, it is interesting to note, was at this period advocated by some but was not popular Again when the matter discharged from an ulcer in the nose is thin and fœtid, and of a brown or blackish colour, there will be reason to suspect from this that the bones are carious, but if any doubt remains a probe should be introduced In caries also the peculiar fœtor of the matter discharged is very noticeable Lues venerea should always be thought of as the most probable cause in these cases, and the patient should be put on a long course of mercury Indeed, from whatever cause arising, the mercury will probably do no harm The spongy bones are apt to produce fungus excrescences to which corrosive applications may be occasionally applied, such as ointments containing verdigris or red precipitate, the nose being kept clean by means of an astringent antiseptic wash

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* From A System of Surgery by Benjamin Bell Illustrated with [illegible] Vol IV Edinburgh: Charles [illegible] [illegible]

By this practice many cases of ozæna will be cured, but it must nevertheless be acknowledged, says the author, that no remedies with which we are acquainted can with certainty be depended on

Occlusion of Nostrils

The writer goes on to note that whilst the anus and vagina are not infrequently imperforate at birth, nevertheless, as is well known, the nostrils are much more rarely so, but more frequently they are more or less occluded as the result of small pox, burns, and venereal sores If breathing is much obstructed the openings must be enlarged with the director and bistoury and kept open by means of dossils of lint, or better, by means of metal tubes covered with leather spread with an emollient ointment, frequently removed for cleansing purposes

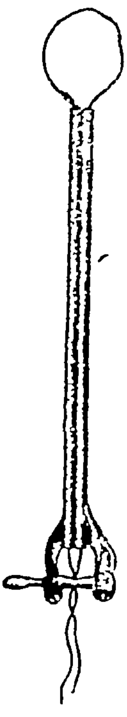
Nasal Polypi

The author states that every part of the nasal cavity and back part of throat are liable to excrescences called polypi after the "insect" of that name which they are supposed to resemble After noting their difference in colour and firmness and their protrusion in thick damp, hazy weather, and retraction in dry he goes on to say that whilst the soft ones are painless, the firm are often painful and ulcerated and may become cancerous The soft ones, on the other hand, may cause perplexity as they increase in size, by falling down on the lip and also interfere with deglutition and respiration by passing far back into the fauces, and in some instances they become so very large as to elevate separate, and dissolve the firm bones of the nose The author goes on to discuss the view held by some that polypi are due to scrofula or venereal affection, but rejects the same

As regards treatment he makes the statement that the risk of removal is nearly in proportion to their firmness, consequently a much better prognosis should be given as regards the soft variety These, which are largely affected by the weather, may frequently be prevented from acquiring any additional bulk by the use of applications such as a strong solution of alum or ardent spirits As to removal the following methods are discussed the use of caustics and the actual cautery passed through a metallic tube the passage of a seton through the diseased nostril the use of scissors scalpel or forceps and the application of a ligature round the neck of the tumour, this last being selected as the best

The manipulations are the same as those used in Paris for the removal of polypi from the vagina For those lying well back and projecting into the post nasal space it is recommended that a silver wire loop be passed through the nose and hitched over the tumour by means of a finger passed in through the mouth The ends of the wire which are hanging out of the nose are now passed through a double cannula (Fig 4), which is pushed home and left in this situation till the following day The wire is then tightened up, and this being duly repeated the excrescences will drop off sooner or later Caution is advised in drawing the wire with much force to obtain greater compression, as hæmorrhages would thereby be produced

FIG 4

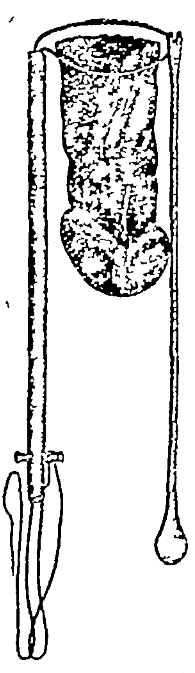


Nasal snare (Bell pl xliv Fig 4) Scale ½

Excrescences on the pharynx and œsophagus may also be removed in the same way Where the application of the ligature is difficult and tedious it is proper to secure an easy and free respiration during the operation by previously performing bronchotomy By this means no additional risk is incurred, for it may with ease and safety be accomplished, and it puts it in our power to finish the operation more perfectly than we otherwise could do

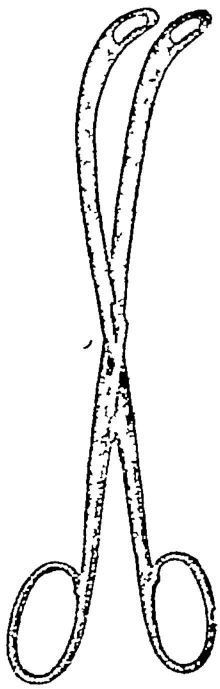
As regards applying a ligature to polypi in the anterior part of the nose, this is done with the aid of a split probe (Fig 5), by means of which the loop is gradually pushed up to its root The ends are afterwards passed through the double cannula and tied to the wings of the instrument, being daily pulled somewhat tighter till the tumour drops off If, however, the forceps be preferred the patient ought to be firmly seated with his head leaning back and supported by an assistant As it is very desirable to discover the origin of the excrescence if possible the face should be placed so that the light of the sun falls into the nostril One blade of the forceps being inserted on each side of the polypus, it is twisted or torn out (Fig 6)

FIG 5



An unusual form of polypus seized by snare also split probe to assist in getting wire over same (Bell plate xlvi, Fig 1) Scale ½

FIG 6



Nasal forceps (Bell plate xlviii Fig 1) Scale ½

Beginners, who are apt to desist before the operation is nearly finished, are advised not to be frightened at the hæmorrhage which may occur for, as a rule this should not be regarded as long as any more polypi can be removed by the forceps On the day after the operation if the bases of the polypi can be seen lunar caustic may be applied through a cannula

When the polypus is very deeply placed and attempts to remove it with forceps or ligature fail, a seton or bougie passed through the nostril into the throat may prove useful by pressure A case is mentioned in which a silver tube covered with plaster was employed the plaster being fixed to the upper lip, the breathing, which before had been interrupted, went on freely

Various kinds of forceps were employed and one kind highly recommended for large polypi was introduced after the manner of midwifery forceps—viz, by inserting the blades separately and then locking them When the polypi are so large that it is impossible to insert the forceps the nostril may be laid open by a longitudinal incision, the parts being afterwards reunited by plasters or stitches

Views of Another Surgeon on Polypi

Another surgeon speaking of the polypus of the nose says it is a complaint always troublesome, frequently painful, and sometimes hazardous The first is the necessary consequence of the situation of the distemper, the second arises from its peculiar nature in the individual, and the last sometimes from its particular nature and sometimes from the manner in which it has been treated

He mentions that polypi have been divided as regards their pathology into strumous, venereal, and cancerous, but lays stress on the fact that a clear distinction must be made between the form which is painful red or purple, hard and fixed, yielding an ichorous or bloody discharge, and the non painful form, which is soft movable, greyish in colour and distilling a clear lymph The former kind he recommends should never be touched, as by so doing one will only make matters worse, but the second variety should be removed preferably with forceps Of this latter benign form there are two varieties the first provided with a stalk or peduncle, the second merely an elongation of the membrane covering the ossa spongiosa. These latter often break and come away piecemeal

The writer prefers the forceps to the ligature and bans escharotics and setons Should the polypus make its appearance backwards in the fauces behind the uvula the instrument had better, nevertheless be introduced into the nose, as attempts to seize it through the mouth set up spasm, and also the uvula is liable to be laid hold of, to the no small detriment of the patient The young practitioner is cautioned against confounding the benign with the malignant form as the writer has seen hæmorrhages which have been frightful and inflammations which have proved fatal as the result of this mistake He also mentions a case in which an untoward looking polypus which was attached to a distempered septum nasi came away with it and a similar thing happened with the os palati

DISEASES OF THE EAR

Finally let us turn to diseases of the ear which are but sparsely referred to One surgeon, after pointing out that deafness may be due to the stopping up of either the meatus externus or the tuba Eustachiana goes on to say that any preternatural fulness of the amygdalæ or tonsils is always attended with some degree of deafness From this latter cause also venereal ulcers in the throat and polypus excrescences by compressing the tube are frequently productive of the same result and a cure will be accomplished by their removal On the other hand if the tube has been obliterated by inflammation it will be in vain to employ any means whatever though it has been proposed to open it by a curved blunt probe or injecting a little milk and water through a curved syringe This however the writer believes to be a very difficult procedure in the living subject though feasible in the dead body

Passing on to obstructions in the meatus externus imperforated meatus auditorius is first discussed and its relation to the imperforate state of other passages in the body An incision with a small sharp bistoury is recommended and afterwards a bit of bougie properly oiled should be introduced and retained till the cure is complete In this way the writer affirms that deafness in these cases may always be removed—a result much more satisfactory one may note than is obtained at the present day It is recommended to operate about the time when the child is beginning to talk

In reference to foreign bodies the introduction of oil is recommended as a great stand by as it kills insects and also facilitates the removal of various impacted bodies Syringing with warm water should be employed but a small sharp hook or forceps may be necessary

Polypus excrescence may occur in the external auditory meatus and may be taken out either with the knife or ligature a similar manœuvre being advised to that used in removing polypi of the nose—viz by means of a double canula When however the growth is not pedunculated and this manœuvre is impossible [illegible] in this case the surgeon advises the use of well oiled bougies likening the disease to obstruction in the urethra, and he says the same remedy duly persisted in proves equally serviceable in both. He admits, however, that at first the bougies are apt to create some uneasiness by irritating the parts to which they are applied, but this soon subsides

Deafness from wax is described and the necessity for the examination of the ear in clear sunshine is accentuated in order to make an accurate diagnosis

In scrofulous conditions the small bones of the ear may become diseased, in this case a great degree of deafness is produced which is never in any instance removed In those cases all we can do is to keep the parts free from smell, which is most effectually accomplished by syringing with a little warm milk and water Less serious discharges may be found in the ear and may be treated with astringent injections which often prove effectual in gonorrhœa such as a weak solution of alum saccharum saturni, or French brandy

Various instruments he states, have been invented for the relief of deafness, but that having the form of a common horn answers the best Small funnel shaped devices to be worn concealed under the wig are also in use Perforating the lobes of the ears was a very common operation considered of much more importance by those on whom it was practised than by the surgeon The operation of burning behind the ear with a red-hot probe for toothache the writer says he cannot recommend, as he considers that most people would think the pain of the remedy more severe than the disease

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THE REMOVAL OF ADENOID GROWTHS

BY J L AYMARD M R C S L R C P LOND

THE necessity for the removal of adenoid growths needs little emphasis as the grave dangers caused by neglect of surgical measures are well known. I do not intend to take up valuable space by entering at all fully into clinical symptoms etiology, &c, but will endeavour to deal with the causes and prevention of recurrence. With a few notable exceptions the diagnosis of post-nasal obstruction in the form of adenoids is now followed by a scraping or cutting process blindly performed behind the curtain of the soft palate The questions arise as to what is cut or scraped, and how far the present methods are effectual Probably a large percentage of the cases so treated have early relief, and trouble attributable to the operation does not follow, but it is contended that many are partial or complete failures As the usual surgical precautions are for the most part neglected ought we not to be surprised rather at our successes than at our failures? There is no reason to attribute such failures to want of skill, but rather to inadequacy of instruments and neglect of precautions

Etiology and Recurrence

The medical profession almost unanimously has condemned the dummy teat as a cause or at least a potent agency and further has it not decided that the non passage of air through the nose is a factor? The child plays for a time with its dummy which then remains quiescent between the lips, forming an effective plug The dummy then may be regarded as an excellent preventive agent As to the actual cause of adenoid growth should we not rather look to chronic catarrh (quiescent only in the summer months)?

The question of recurrence really amounts to this Children operated on not infrequently present the symptoms of adenoids at a later date Were the adenoids removed in the first instance? However skilful the surgeon unless he has fully examined the result of his work at the operation by the aid of the mirror, any opinion as to possibility of recurrence can be of little value How many surgeons take this precaution the urgent necessity for which no one denies? As to breathing exercises few successes would be recorded were the results entirely dependent upon them However, in children six years old and upwards without the dentist s aid and a complete system of exercises deformity will remain Sir Arbuthnot Lane drew attention to the importance of this nearly 20 years ago Recurrence or apparent recurrence of post-nasal obstruction seems due to at least three causes incomplete removal, nasal obstruction not diagnosed apart from hypertrophied pharyngeal tonsil; and absence of any appreciable adenoid growth with faulty diagnosis, and subsequent development The specialist is, as a rule, at a disadvantage in that he sees his patient probably once prior to operation and seldom afterwards If unsuccessful the case is taken elsewhere The general practitioners, however see their patients grow up, and opinion appears to indicate that no matter who the operator recurrence is somewhat frequent Nevertheless postponement, once the disease is established, can only lead to disaster, whereas a second operation is surely not such a serious matter

The Dangers of Operation

In considering the danger of the anæsthetic, let the administrator bear his share of responsibility With one notable London exception, surgeons prefer a light condition of anæsthesia, leaving ample margin for safety Does the child who dies a few hours later succumb to the effects of this light anæsthesia? Is not the collapse due to the continual swallowing of blood from the torn vessel? Surely it is our duty in all cases by direct observation to make certain that hæmorrhage from this operation has ceased before proceeding to the removal of the palatine tonsils The question of secondary hæmorrhage can then be established as a certainty The absence of almost any efforts to render the operative area aseptic before and after the operation must tend to account for some inflammatory conditions, whilst blindly cutting or tearing without definite diagnosis probably accounts for other well known serious results Finally, the dangers of the operation will still further be reduced when such cases are everywhere treated apart from the out-patient department of general hospitals, and not as at present only in certain up to-date institutions

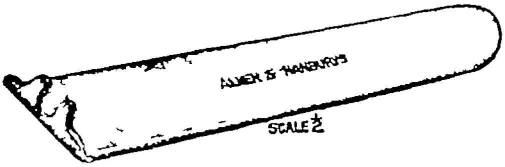
Methods of Examination

Examination by mirror —In almost every modern text-book this means of diagnosis is recommended, and stress is laid upon the necessity for patience and experience as the keynote of success, and yet in how many hospitals is the procedure carried out? It would seem that the writers feel that diagnosis is incomplete without such examination Suppose a hurried glance is obtained of the area behind the soft palate without this being raised, what is disclosed? If the pharyngeal tonsil has degenerated into an adenoid condition, only a distorted view of the growth from below will be apparent It is not a question of experience, but one of facts Probably only a small percentage of surgeons who operate upon the pharyngeal tonsil are familiar with its normal appearance, a study of which is essential to those who adopt the direct method advocated in this paper The infant with cleft palate presents a convenient subject making due allowance for the tonsil being slightly inflamed through irritation

The diagnostic value of the finger —That a forefinger forced up behind the soft palate can detect blockage by an enlarged pharyngeal tonsil, or a combination of tense palate and this, no one will deny But as to the exact position and extent of the growth the value is questioned When the growth has been removed, according to the text-books as well as universal opinion, loose tags can be felt and the patency of the post-nasal cavity established. After years of experience the writer must admit that he has not satisfied himself that he has acquired either art Nasal surgeons will admit that in many cases the lower two-thirds of the tonsil may appear quite normal but from the upper third as well as the neighbouring fossæ adenoid tissue will be found to extend well into the post-nasal space and sometimes end in large masses of growth Now let believers in digital examination take a medium sized thimble 5/8 inch in diameter compress it into an oval, and fill it with soap up to 1/8 inch of the rim The oval will measure 3 4 × 1/2 inch, and will represent fairly accurately the size of the post-nasal openings or choanæ in the adult Let the soap represent a growth 1 8 inch inside the post nasal space and no ordinary finger can reach it On reducing this bony opening to that of the size of an average child of two years it will approximate 5 16 × 3 16 inch making allowance for the mucous covering together with unhealthy inflamed condition Thus the fallacy of establishing the patency or otherwise will be apparent Under these circumstances can any surgeon detect a partially cut mass of adenoid tissue pushed up these openings? A few blind tests in the post-mortem room will probably somewhat modify the deeply rooted belief in this method of diagnosis

The direct method of examination —The mouth being open 1½ inches, and the soft palate and uvula being out of the way there is nothing to hinder a complete view of the pharyngeal tonsil, and in many instances a portion of the posterior wall of the nares If the observer were looking in the space between the elevator and lower incisor he would see all that he required This is in an adult, but the process is somewhat easier in a child, whose mouth relatively can be opened more widely Instruments termed retractors have been designed to get the soft palate out of the way The process is certainly not one of retraction, but protraction and elevation, and, more correctly still, one of stretching and elevating Surgeons hitherto when designing instruments for this purpose do not appear to have appreciated the value of this stretching process, thus leaving the bony parts in the line of vision as little covered as possible. The posterior edge of the horizontal plate of the palate bone, as is well known, presents two concavities facing the posterior pharyngeal wall, each concavity meets in the centre, forming a prominence collectively known as the post-nasal spine, but which would more correctly be described as the horizontal portion of the crest of the palate bone The palate elevator designed by the writer provides two hooks as seen (Fig 1) which rest in these concavities

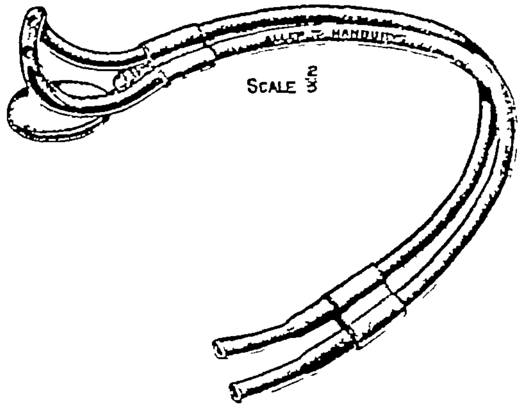
FIG 1



Author's palate elevator A rigid flat metal plate 3 4 inch wide and 8 inches long curved at one end so as to engage in the post nasal floor

Tongue depressor and mucus extractor —Every surgeon is familiar with the one great difficulty in these operations —viz, the pharynx and buccal cavity being filled with mucus and as soon as manipulation takes place blood stained mucus It is one of the chief difficulties in post nasal mirror examination The action of the anæsthetic appears to create this condition, which is freely kept up The introduction of swabs removes stringy quantities only quickly to be replaced Swabbing is objected to by some authorities and probably not without reason The piston action might easily force fluid down the trachea though the usual objection refers to the irritation of the palate supposed to be caused For direct diagnosis purposes for mirror work and for subsequent examination and treatment it is essential if possible to extract all fluid from the pharynx as soon as formed The accumulation of blood and mucus causing a danger from choking is given as the reason why

FIG 2



Author's combined mucus extractor and tongue depressor It is constructed out of a single piece of metallic tubing bent as illustrated and connected at the two free ends with the rubber tubing leading to the Woulfe bottle The mirror is shown in position for examination but has been bent down so as not to obscure the apertures of the extractor The mirror can be slid back along the stem when required the anæsthetic should only be of a light nature. In order to avoid unnecessary instruments the writer has combined a mucus extractor with his tongue depressor. The latter is illustrated (Fig. 2) but the tubes, Woulfe bottle, and vacuum pump, with full particulars are omitted for space, but are supplied by Messrs. Allen and Hanburys with the necessary instruments. The pump is a small but powerful automatic arrangement which fits the basin tap, the water running down the usual waste pipe. One small rubber pipe is led to the Woulfe bottle, which collects the fluid, and two rubber tubes are taken from the bottle to the tongue depressor.

Methods of Removing Adenoid Growths.

The action of the curette.[1]—If the nature of adenoid tissue and its usually loose attachment is carefully studied the difficulty of cutting it will be realised. Curettes must be placed in at least two classes: those with blades and sides at right angles to their handles and those with blades and sides thrown back at an acute angle. It is possible to cut with the former if very sharp, but the latter can never be other than part cutter and part scraper. Even with a sharp curette of the latter type the tissues must be drawn by the knife quite tense before any cutting action takes place. If experiments are made with the curette to which Sir StClair Thomson has attached a set of hooks it will be found that, given a large hypertrophy of the pharyngeal tonsil, it will probably tear and cut most of it away, but more often than not it will slip over a medium sized growth, the supporting sides preventing the approach of the blade to the surface of the tonsil. The arch of the atlas below throws the curette handle upwards and the blade away from the surface of the tonsil. On the other hand, a similar curette with very short bend in the supporting arm is capable of cutting deep into the tissues behind the tonsil if pressure is made. The curette probably most in use is really a Beckman's with hooks and cage attached by Sir S. Clair Thomson, but described in some works as a Gottstein. The virtue of these hooks is not so much the catching of the growth when detached, which is unimportant, but engaging the growth, dragging it down, and allowing it to be separated by a semi-cutting and tearing process.

The difficulty attaching to all curettes is that the cutting is unnatural. In order to cut tissues satisfactorily there must be side-to-side movement or firm pressure against a solid substance. That many curettes do come in contact with a solid substance is evident by their frequent visits to the instrument makers. Another cause of failure of the curette, and one which is admitted by some authorities, is getting the knife over the top edge of the growth. A study of a fair sized growth in position shows that the difficulty is a very real one. The blade parallel to the sides is the worst in this respect. Most blades are over ¼ inch deep, and therefore unless the growth is conveniently pendant it must be pressed up against the vomer, having reached the angle of junction with the basilar process the downward movement takes place, and as previously pointed out no cutting or tearing takes place until the tissues are stretched tight. Therefore for at least a quarter of an inch the growth is left and there is no reason why a second scrape should be more successful. The rake-like hooks curved backward added to the Beckman's curette make with the knife a depth of ½ inch. This all has to be accounted for in getting over the top edge of the growth; therefore the tendency to squeeze it as a first procedure is apparent. The only form of blades likely to meet the above difficulty would be one on the principle of a Balenger's septum knife. This leaving behind process is recognised, and some authorities advise removal with what are known as punch forceps. Punch forceps are suitable for cartilage or bone but not soft slippery tissue such as adenoid. The punch forceps, however sharp, simply crush between the blades the tissue, which is subsequently torn away with any adjacent blood vessels and, as one authority states, not infrequently with long strips of healthy tissue. The ordinary curette as a means of removing growths from a recessed pharynx is, for obvious reasons, not discussed, but the interesting question is raised as to how common these conditions really are.

Preparation of patient.—With the facilities almost everywhere now it is very unwise to operate elsewhere than in a hospital or nursing home. The giving of calcium lactate to children for a few days previously is somewhat largely in vogue and undoubtedly wise in cases of the lymphatic type, but there does not seem sufficient evidence to show that in general such treatment will diminish the hæmorrhage from a torn vessel. The usual anæsthetic preparation is essential, as any vomiting of food is sure to lead to trouble. The teeth especially should be carefully brushed and the mouth and pharynx washed out with peroxide prior to operation. The child should be admitted the day before operation and not discharged until the day after; with due caution, the poorer the child the longer it should remain.

Removal of adenoids prior to tonsils.—In reversing the usual order great advantage will be gained. Evacuation of mucus and control of hæmorrhage ensure a complete and satisfactory operation together with a thorough examination.

The Direct Operation.

The position of the patient.—If the technique of the operation is strictly adhered to, the position of the patient for the usual reasons is unimportant. The writer prefers the prone position with head slightly raised. A light condition of anæsthesia is insisted upon and all haste abandoned. When the patient is sufficiently under the jaw depressor is opened up. The palate elevator is introduced very gently to the back of the pharynx and carefully brought up in contact with this. Its introduction will almost always cause a slight spasm of the glottis, the soft palate being gently raised several times until this passes off. The elevator then finally stretches the soft palate, and the hooks are brought forward to engage in the floor of the post nares. The surgeon holds the elevator firmly in his left hand between finger and thumb, his other fingers resting against the upper jaw, and introduces the tongue depressor with his right hand. Care should be taken to keep the elevator in the centre of the palate when engaging the hooks with the septum between.

The direct diagnosis.—At this stage a pause is made to make a complete examination. It will be found in some cases where the diagnosis has been made from the clinical symptoms that not only is this tonsil quite normal, but the post-nasal region apparently is also healthy. In these cases the writer has always found one or other fairly large tonsil pressing up the soft palate, which probably produced the symptoms. In a similar manner to the palatine tonsils the pharyngeal tonsil may be in a temporarily quiescent state. The direct examination will at other times reveal, especially in older patients, adenoid conditions when least expected. The patient being in a prone position it will be found in some cases that the appearance of the tonsil is deceptive; being plastered down by mucus it may look fairly normal. It is therefore wise always very gently to dab the surface with a small pad of wool. It is then advisable to examine the tonsil with a blunt instrument, and no better will be found than the smooth end of a uterine curette. The growth if present should be lifted from below and also laterally. The upper portion requires especial attention, where it often wraps round the vomer and joins varying sized masses in the post-nasal spaces. The gentlest use of the curette only is permissible, otherwise hæmorrhage will spoil the view.

The more examinations are made by the direct method the more surgeons will become acquainted with the different forms these growths will assume, and until familiarity is obtained fairly large growths may be missed. It is quite common to find the centre of the tonsil apparently normal, when careful examination reveals a prolonged growth either on one or both sides arising from a base attachment to Rosenmüller's fossæ. To what extent would such a condition be diagnosed by the digital method? Supposing this lateral growth to be on the right side, the finger introduced on the left would feel nothing unusual upon bringing it over to the right, while if the finger were inserted on the right side it would push up the growth in front of it The direct method however, shows clearly the growth and its attachment, and this only is removed On the contrary, if the other method were used the question remains as to how much the normal tissue would be unnecessarily damaged. The writer recently found in a child aged 11 (presenting the typical adenoid facies) a large growth the size and shape of a gelatine jujube entirely situated on the right half of the tonsillar area, the remaining portion being normal The right pharyngeal tonsil was also much enlarged, and the left apparently normal

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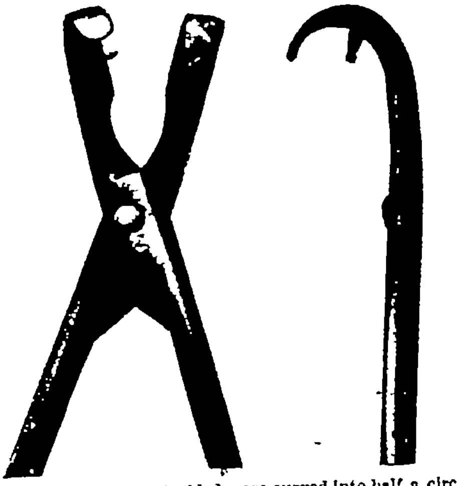
[1] In the illustration in our leading work, by Sir S. Clair Thomson, [illegible] of "Removal of Nasopharyngeal Adenoids" (p. 312, Fig. 150) [illegible] which the writer is certain will be taken in the spirit in which it is meant, and solely for the purpose of arriving at the truth. In this eminent surgeon's "Diseases of the Nose and Throat" is a photograph taken from an actual subject. It can be seen that the upper portion of the curette is not in contact with the wall, thus [illegible] over the growth, leaving it to continue growing [illegible] a case of recurrence. [illegible] The cage seems to [illegible] the growth. In [illegible] The cage requires a [illegible] In my view the cage does not [illegible] the hooks are engaged in the growth [illegible] the case [illegible] the same purpose as the cage.

Having obtained the fullest information *in situ*, the next procedure is the passage of the smooth end of the curette very gently through each nostril in turn, the curette being kept parallel to the septum and just resting upon the floor of the nose, any blockage can be felt, and any bleeding will indicate probable adenoid growths The hæmorrhage will be seen coming from each post-nasal space After passing the post-nasal openings the curette is turned across and the handle raised If obstruction is encountered it is, if possible, gently removed with the sharp end of the curette This process has been adopted by the writer for several years, and probably accounts for freedom from cases of recurrence The uterine curette is more suitable for young children than Meyer's ring The size of the growth having been thoroughly estimated the elevator is transferred to the anæsthetist to hold The next question is which is the better method of removing the growth.

Instruments for removal —There is no more suitable instrument for the removal of adenoid tissue from a normal or recessed pharynx than a modified pair of long, very sharp surgical scissors The scissors illustrated are curved into half a circle and fitted with two small interlocking hooks to catch the detached growth The writer uses heavy scissors with fairly wide blades, though others will probably prefer a lighter and narrower instrument (Fig 3) A second pair of scissors are also used, curved only at the tips, to remove any remaining small portions The crusher is similar in construction to the large scissors with the same semicircular curve, but the joint is larger and the hooks are omitted The blades abut on one another and the handles are inter locking This instrument is used in the same manner as the scissors, and prior to them when the growth is large The scissors are introduced closed and sideways opened wide each side of the growth pressed well back to the pharyngeal wall and lifted up They are then gently closed and brought slightly forward behind the growth If the scissors are closed when pressing firmly against the wall more than the growth will probably be removed. If carried too high up the septum may be cut though probably with little harm result ing When the scissors are finally brought together a pause should be made as this will partially crush the tissues and

FIG 3



Author's adenoid scissors The blades are curved into half a circle and fitted with two small interlocking hooks to catch the detached growth

lessen the hæmorrhage The scissors are then closed tigh' over and lowered down the wall and withdrawn. Immediately the scissors are dropped the crusher is introduced grasping a small pad of wool soaked in saline It is bette to use saline, as it is not likely temporarily to check hæmorrhage, subsequently to recur, adrenalin might have this tendency The pad is held against the cut surface for 30 seconds, when, as a rule, any tendency to hæmorrhage will have ceased, if not, it must be vigorously dealt with by a deep suture or continual pressure No surgeon is justified in proceeding to further operation until all bleeding has stopped. This method of removing adenoid tissue under observation must appeal to all surgeons, in contrast to the system of scraping the post-nasal space in the dark

Selection of period for tonsil enucleation —No question of emergency from danger of suffocation being likely to arise in ordinary inflammatory conditions there can be no necessity to choose such occasions, but in cases of diphtheria and certain septic conditions the operation should be the rule instead of the exception No harm can be possibly done by removing the local focus of infection and thoroughly swabbing the naso-pharynx with iodine or peroxide, while the admission of air gives the child a chance, in conjunction with the usual injections, which in many cases will save life

The Palatine Tonsils

Methods of removal —The almost universal practice at present is enucleation, but it would appear not to be fully realised that when this is done with a guillotine force is unnecessary Those who do not use this method urge that the lingual together with flat palatine tonsils cannot be included To a great extent the difficulties caused by leaving the lingual tonsil will seldom be encountered outside the text books, and then, as Watson Williams states, we have here a disease of adult life This should hardly be urged against such an excellent and simple operation The only objection the writer has to the guillotine enucleation instrument is in its final action The guillotine was designed to cut by pressing a knife between a split ring, and in this action it is for the most part a failure but this very failure is a virtue in its new use Efforts have been made to design instruments to crush and cut by two distinct processes, but as long as the split ring element is introduced the tissues cannot be cut clean and therefore little advantage is to be gained. Most surgeons employ the method of pushing instead of pulling the guillotine on to the tonsil, and as these instruments were designed for the latter purpose strengthening is advisable Force should never be employed, knack only is required The surgeon who breaks a guillotine has much to learn Reversing the blade to meet the above condition is open to question Mr Heath recently stated that he found surgeons largely used his instruments and were quite satisfied If that is so why alter them as far as the blade is concerned? If the object is to facilitate the cutting process, then the advice given in the books as to the advisability of using a blunt instrument will be defeated The blunt guillotine as an enucleation instrument is a distinct success, though the tearing process at the finish must tend to open the vessels again. Some surgeons jam the instrument against the jaw Advice is given to push the tonsil into the guillotine with the forefinger This may apply to the adult, but in the mouth of a child of two years the question of room arises If the instrument is introduced diagonally across the buccal cavity and the tonsil as it were scraped up a few times the guillotine will accomplish all and more than the finger can Again, when the tonsil is dislocated forward upon the jaw force used will defeat the object. Steadiness is required when closing the knife otherwise this action will push it off the tonsil In the case of small and large flat tonsils the writer adopts a method of crushing them with his adenoid crusher and removing any pieces with the adenoid curved scissors

It matters little by what process the tonsils are removed—a fairly large raw surface is always left to granulate over and finally scar Apart from hæmorrhage it certainly is no sound surgery to leave this open sore and the only difficulties to closing it are presence of blood and mucus and the question of time The closing of the opening by meta' clipping the two pillars always involves the possibility o' loosening, and also trouble in removal. A better plan will be found by suturing the wound from below upwards with curved long handled needles and fine silk or thread. The art of suturing at depth is extremely simple, rapid, and easily acquired with a little practice The result to the patient is marked, the usual discomfort for days being almost entirely eliminated.

How to suture at depth —With the mouth and pharynx clear of mucus and blood, the introduction of a curved needle from below upwards is an easy matter, all that is required is a little practice and the simplest of instruments—a long pair of forceps to pick up the tissues, a small curved hook to catch the suture, and a knot tightener It is better to practise the method under somewhat similar conditions Fix a piece of lint to the table (do not practise with the silk round a smooth surface such as a pin) Take a needle threaded with about 18 inches of silk, and having passed it through the lint tie a simple reef knot half way between the lint and fingers, next grasp one end between finger and thumb, while the other end is held loose and played out as required. The knot adjuster is introduced and kept about ¼ inch away and slightly in advance of the loop which runs easily down the other tight silk The knot adjuster must not be placed in the angle of the knot, otherwise it will jam One suture is sufficient for a child, but two will be required in an adult In order not to mix the sutures it is advisable to use them of different colours and not clip them A fine silk suture has been found most suitable

After-treatment

Surgeons in general emphasise the question of shock to young children consequent upon the operation, and at the same time advocate the use of ice to stop hæmorrhage at the back of the pharynx. Surely this is not correct The act of circumcision—surely a more severe operation—is well stood without much evidence of shock. The question is really one of hæmorrhage, and the shock can be measured accordingly Saline injection should always be ready for use Hæmorrhage after all operations, though it is not generally admitted, is a common cause of death. How many children nearly die from this cause after this operation? The child quietly sleeping and quietly swallowing is the one nurses need to watch The writer adopts the precaution of having the nose and mouth sprayed with a coarse spray of weak permanganate of potash every hour for 24 hours after these operations The question of improving the physical condition in neglected children by systematic training is indeed a national one, and should receive the attention of the State Homes for this purpose require to be established where children would be under the constant supervision of nurses proficient in the art of breathing exercises Under such conditions and amid healthy surroundings three months should suffice to start a permanent improvement and eliminate from the community those deformed and semi idiotic looking children so common everywhere at the present day

Johannesburg S A.

THE DEVONSHIRE HOSPITAL, BUXTON —The annual report of this institution dealing with the year 1915 makes a special appeal for donations in aid of a debt of £11,500 contracted in consequence of extensions commenced before the war During the year under notice 3106 in patients were treated of whom 2463 were discharged as improved and 9 died The out patients numbered 871 It is pointed out that the work during 1915 cannot be compared with that of any previous year, the conditions obtaining being quite different Up to the end of the year 1111 soldiers had been admitted since the commencement of the war suffering from rheumatism and allied diseases and although the total income under the heading of revenue account has been more than in previous years it is accounted for mainly by the payments made by the War Office for soldier patients

CHILDREN'S COUNTRY HOLIDAY FUND —The Earl of Arran the honorary treasurer of this fund has issued an appeal for subscriptions which have fallen very considerably owing to the war One of the objects of the fund is to send ailing children from the elementary schools of London to the country for a fortnight during the summer holiday and in this way the fund does much to promote the health of the children of the poorer classes in the metropolis As there is a great dearth of country homes able to accommodate the children the secretary would like to be informed of villages where the children could be conveniently housed Subscriptions and donations should be sent to 18 Buckingham Street Strand W C the offices of the fund or to the bankers, Messrs Barclay and Co 1, Pall Mall East S W

OPERATIVE TREATMENT OF OSTEO-ARTHRITIS

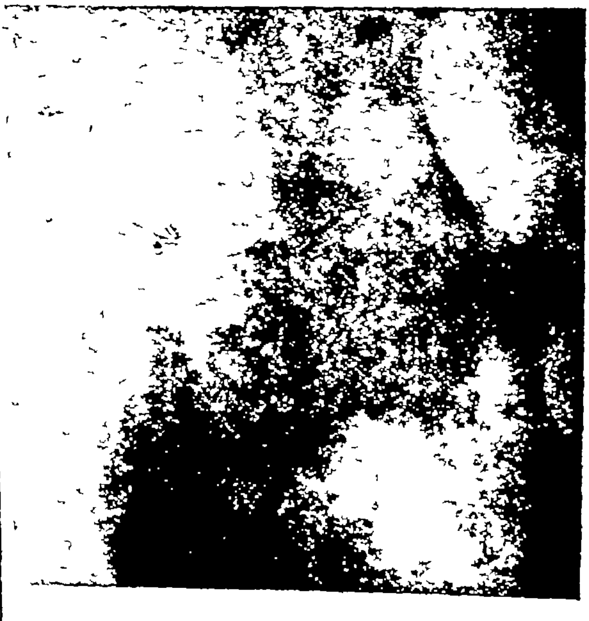
BY W I DE C WHEELER, F R C S IREL,

SURGEON TO MERCER'S HOSPITAL, DUBLIN

Two of the X ray photographs here reproduced illustrate the condition of a patient who was operated on in October, 1912, for osteo-arthritis, and demonstrate the appearance of the hip-joint three years afterwards As this was the first case on record, so far as I know, in which a systematic operation was performed for the relief of crippling osteo arthritis, it may be of interest to record the operative procedure and the late result

The patient, a female aged 21 years, was the victim of polyarticular chronic rheumatoid arthritis (metastatic), from which she had suffered from childhood. The left knee-joint, the right hip joint, and both wrists were disorganised by characteristic osteo-arthritic changes The left knee was semi flexed and could only be extended with great pain The right hip could bear no weight whatever, the slightest pressure on the heel causing pain in the joint Locomotion was only possible with the aid of crutches, but owing to the condition of the wrists movements were attended with much suffering The patient had been dependent on the use of crutches for seven years All forms of treatment had been tried. Massage, hot air, and vaccines had in turn been recommended without success, and alterations of the boot on the side of the flexed knee had failed to give any relief or to improve the crippled condition of the patient X ray photographs taken by Dr M Hayes showed lipping of the tibia on the outer side of the left knee joint, corresponding to a point of great tenderness, and a ring of osteo-arthritic bone was found surrounding the right femur at the junction of the head and neck (Fig 1) Every movement of the joint was impeded, but more particularly in the direction of abduction

FIG 1



Cheilotomy for crippling metastatic arthritis of the hip-joint (First case on record) Patient aged 21 before operation A ring of new bone surrounded the junction of the head and neck of the femur Great pain accompanied any movement of the joint Crutches were used for seven years

The first operation was performed on the knee joint in September, 1912 The lipping of the tibia was carefully removed through a well marked line of cleavage A weight and pulley were attached to the limb for ten days, and massage was administered for a short time subsequently I was surprised to find that a few days after the operation the joint could be fully extended and flexed without pain I explained to the patient the untried nature of the treatment and that operation on the hip might not be followed by a similar result She, however, urged me to try

A month after the first operation (October, 1912) the right hip joint was opened through Kocher's posterior incision There was a well marked "cornice" of newly formed bone, giving the head and neck the mushroom like appearance commonly seen in the surgical museums The capsule was freely opened, and while the hip was rotated in all directions by an assistant the new bone was chiselled away from about two-thirds of the circumference On the following day pressure on the heel caused no pain The stitches were removed in ten days and the patient was allowed up within a fortnight She could by this time bear her entire weight on the limb, and the movements of the hip joint, including abduction, were free and painless Eight months afterwards I saw the patient in London with Mr T P Strangeways, of Cambridge, who is specially interested in the subject, and she was then walking without crutches in absolute comfort

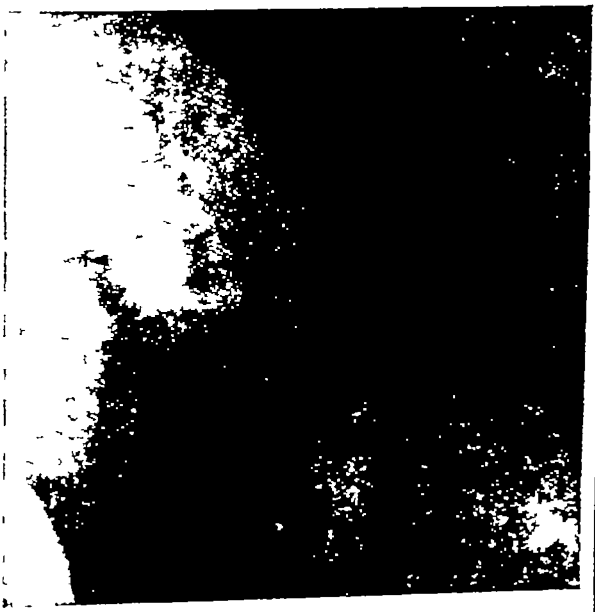
Three and a half years later Dr A C Jordan, of London, kindly X rayed the hip (Fig 2) It will be seen that there is no sign of recurrence of the disease, and that the profile view shows a comparatively normal joint The patient continues to be well, and is at present engaged in munition work

There appears to me to be three classes of cases which may receive benefit by operation

The case described above illustrates a class where there is a line of cleavage between the old and the new bone, such as is commonly found in connexion with the head of the first metatarsal bone in cases of bunion The removal of the osteo-arthritic lipping in such cases is easy of accomplishment and is followed by good results without a tendency to recurrence Whether this variety is more often found in young people, as in my case, I cannot say

The second class (Fig 3) comprises cases seen most commonly in elderly patients, where irregular osteophytes form in connexion with the joint in such a way as to produce ossification in the fibrous layer of the capsule The fibrous layer of the capsule is a continuation of the fibrous layer of the periosteum and it is in this as J B Murphy points out that a marked tendency to ossification exists In such cases there is no attempt at a line of cleavage and the removal of the osteophytes leaves behind large areas of raw bone An operation for the removal of such osteophytes may be followed by recurrence or ankylosis In a suitable case belonging to this class the complete operation of arthroplasty as advocated by Murphy is probably the best procedure It must be remembered however, that if pain is the chief indication for operation ankylosis of the joint in a good position is not undesirable, since the pain at once disappears

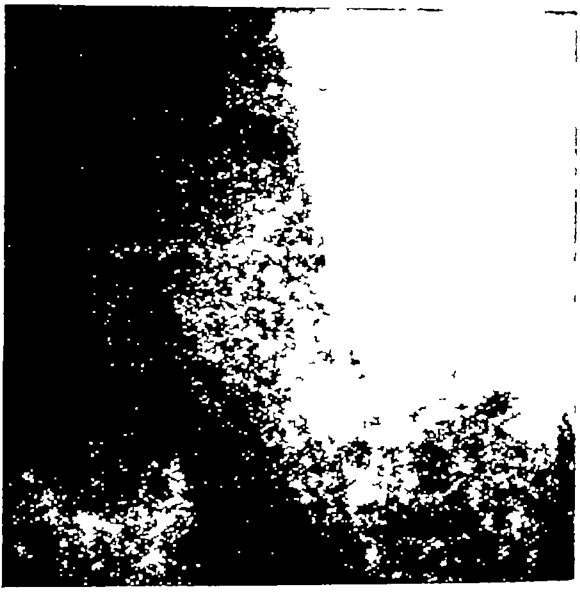
FIG 2



Same patient as Fig 1 Three years after operation The patient fourteen days after operation was walking with no pain and without crutches Full movements were restored to the joints There is no sign of recurrence

In the third class of cases the "rheumatoid" arthritis causes destruction of the joints without osteophytic outgrowths This is often a painful and crippling form, especially when it involves the hands and feet It is common in young people, and, like all other forms of the disease is probably metastatic Much can be done, no doubt for these cases by the administration of vaccines if the focus can be found, but if the cases are "cryptogenetic" attention should be directed to the condition of the large intestine

FIG 3



Cheilotomy Patient aged 60 a recent case Osteophytes in elderly people have usually no line of cleavage Removal from the fixed acetabulum is more difficult than from the femur which can be rotated during operation

In alluding to the rôle of the colon in such cases I am conscious that I am treading on very controversial ground, but I have been struck by two recent patients in my own practice who were relieved in a striking manner by a partial colectomy X ray photographs had shown marked enteroptosis and stasis in the colon A few days after operation the patients, in an unmistakable manner, described the disappearance of the pain from their joints, and subsequently demonstrated the restoration of movements and function which before operation appeared irretrievably lost There is much room for investigation in relation to the effect of colectomy on certain cases of crippling rheumatoid arthritis and the subject deserves in my opinion serious attention

In conclusion I must acknowledge the contributions of Mr Sampson Handley to the literature on this subject He is responsible for the term "cheilotomy" as applied to the removal of lips of osteo-arthritic bone, and although so far as I can ascertain no operation of cheilotomy was performed prior to the case I have recorded in this paper Mr Sampson Handley was the first to publish his operative results, and thus to bring the subject prominently before the profession

Dublin

MEDICAL MAGISTRATE —Dr A E Larking has been appointed a justice of the peace for the borough of Buckingham

DEATHS IN THE DENTAL PROFESSION IN THE WEST OF ENGLAND —Two well known members of the dental profession have recently passed away, Mr T Taylor Genge L D S Irel, aged 59 years of Clifton who had been for 26 years honorary dental surgeon to the Bristol General Hospital and Mr J T Browne Mason L D S Eng who had practised his profession in Exeter for 40 years He was honorary consulting surgeon to the Exeter Dental Hospital His son, Lieutenant Colonel H O B Browne Mason R A M C, was made prisoner at the fall of Kut

ON THE AGGLUTINATION REACTION OF THE BACILLI OF THE TYPHOID-DYSENTERY GROUP WITH NORMAL SERA *

BY T. R. RITCHIE, M B CH.B N Z,
CAPTAIN, NEW ZEALAND ARMY MEDICAL CORPS

(Report to the Medical Research Committee)

AN agglutination test carried out with the serum of a patient may be used either to diagnose an infection during the acute stage of the disease or, in the stage of convalescence or recovery, to decide with a considerable degree of accuracy the specific nature of the infection from which recovery has taken place. In this latter instance the agglutination test is often the only means of specific diagnosis at our disposal as the virus may be no longer present or the search for it may be so difficult as to make the chances of success negligible. As a biological reaction its value is relative, the figures obtained by testing a series of sera which are suspected of being pathological are only of value when those figures are compared with the results obtained with a series of presumably normal sera, the same technique being employed in each series This simple and obvious condition has, however, been too often disregarded.

A correct appreciation of the actual facts regarding 'normal agglutination of the organisms of this group is a very pressing matter particularly in view of the many investigations of 'enteritis' cases now in progress

Having been working on such cases on behalf of the Medical Research Committee at the Bacteriological Laboratory of the London Hospital in association with Dr Rajchman and Dr Western, I undertook the examination of a series of "normals' so as to determine the "normal mean agglutination for the bacilli in question when examined with the technique which is being employed in this laboratory In the initial stages of this investigation samples of blood were collected from medical students laboratory workers, and hospital patients. We were however soon forced to the conclusion that such individuals could not be taken as representing the "normal" population In an endemic area an individual, however normal his history may react to the specific virus more readily than would be the case with a person in an area free from infection Persons in the immediate environment of active cases of disease cannot be taken as "normals' who have not encountered any specific virus Individuals inoculated with a specific antigen cannot be regarded as normals to that virus In order to eliminate as far as possible these fallacies Dr W M Fletcher very kindly arranged for us to obtain a series of 800 ' normals" at Cambridge. The local organisation was carried out by Professor J S Gardiner and Mr T P Strangeways for whose kindness and help we wish to express our thanks We would also avail ourselves of this opportunity to express our thanks to all those who so willingly submitted to be tested as ' normals "

The following table shows the sources from which samples of blood were obtained —

Males		
Cambridge Undergraduates	294	
Cambridge Scientific Instrument Company	108	
Cambridge University Press and Union Press	48	
Leys and Perse Schools	33	
Cambridgeshire Regiment	28	
Various sources	24	—535
Females		
Newnham and Girton Colleges	251	
Various sources	6	—257
Total number of persons		792

None of the 792 persons as far as they were aware had suffered from an infection by any of the organisms against which the sera were being tested Foreigners and all who had been inoculated were excluded

When in the course of the investigation it was found that a serum gave a positive reaction in a higher dilution than 1 in 16 for B typhosus B paratyphosus A and B 1 in 32 for B dysenteriæ (Shiga), or 1 in 128 for B dysenteriæ (Flexner), further inquiries were made on the following lines (a) History of acute enteritis, (b) history of "food poisoning," (c) employment at any time in a bacteriological laboratory, (d) contact with cases or epidemics of ' enteritis,' (e) residence in a thickly populated area or abroad, and (f) work in asylums Only in a small percentage of cases did these inquiries elicit information pointing to a possible explanation of the positive result obtained. These are noted later under their respective headings

The results obtained from the examination of the blood of medical students and laboratory workers and those obtained from hospital patients are given in separate tables The percentage of positive results is much higher in some cases in these two classes, a result as suggested above due to their greater exposure to infection, and also, in the case of hospital patients, to their living in a thickly populated district and possibly to the inclusion of many who have suffered from one or other of these diseases but from whom definite information could not always be obtained.

Age is perhaps an important factor in such an investigation as this, as the percentage of positive results obtained may to some extent be influenced thereby As this investigation was undertaken primarily to give a 'normal' standard for comparison with results obtained from cases of sickness amongst the soldiers in the Mediterranean Expeditionary Force, "normal" persons of approximately the same age were selected None of the cases examined were under 17 and very few under 20 years of age Of the females none were over 30 and of the males only 10 per cent were above that age The vast majority were between the ages of 20 and 25

Technique

Before detailing the results of the serological investigations which we have carried out it will be necessary to describe the technique employed.

In deciding which method we should adopt for carrying out the agglutination reactions we aimed at obtaining a technique which would combine accuracy with simplicity and would give a good end point in reading off and also a technique by which the large number of cases at our disposal could be adequately dealt with without delay and with limited assistance. With these ends in view we have adopted in principle the method described by Max Neisser This consists in the use of series of glass cells ground flat top and bottom so that they may be piled up on top of each other In the place of graduated pipettes as used by Neisser we have employed the principle of the drop method as described by Donald [1] In an actual test our procedure is as follows —

A series of glass cells is laid out the number varying according to the limit of dilution it is desired to reach A capillary pipette is then taken and cut off at a suitable gauge (we have found No 53 Stubbs steel wire gauge to be a convenient size) With this a 1 in 8 dilution of the serum in saline is then made. With a similar standardised pipette one drop of saline is placed in each of the series of glass cells One drop of the 1 in 8 serum is then added to the first cell and mixed so as to make two drops of a 1 in 16 dilution. One drop of this is then added to the second cell, making two drops of a 1 in 32 dilution This proceeding is carried out until the last cell of the series, one drop from the last cell being thrown away We now have a series of serum dilutions 1 in 16 1 in 32, &c. each of equal and standard volume ready to receive the emulsion.

The emulsions we have used have been living suspensions obtained by washing off with normal saline 24 hours growth of the bacillus required from agar slope cultures In the case of B dysenteriæ Flexner and B paratyphosus B a few revolutions in the centrifuge is advisable to remove clumps During the period in which we have been carrying out large numbers of tests daily we have found no difficulty in obtaining uniformly satisfactory emulsions by this method With a pipette standardised as above one drop of emulsion is added to each dilution of serum so that we now have a series of dilutions of 1 in 32, 1 in 64 &c. The cells are now piled up the top one being covered with a flat glass which carries any necessary labelling The pile is placed in the air incubator at 37° C for a period of two hours Controls for each bacillus are put up at the same time The results are then read off by placing each cell in turn on the stage of a microscope and examining with a two thirds inch objective By this method we have obtained results which appear to have great uniformity, the end point is marked and easy to read off, and we have found it possible to test as many as 130 sera to five different organisms in a single day in which about five hours were devoted to this work The only special apparatus required for carrying out this method on a large scale is a sufficient number of the glass cells

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* This work has been carried out in the Bacteriological Department of the London Hospital in association with Dr L. Rajchman and Dr [illegible] Western, in connexion with an investigation into cases of enteritis from the Mediterranean area.

[1] A Method of Drop-measuring Liquids and Suspensions THE LANCET Dec. [illegible] 1915 p 12[illegible]

B Typhosus

None of the cases examined had been inoculated with this organism

TABLE I —*Showing Results obtained from the Examination of the Blood of 789 Normal Persons, excluding Medical Students, Laboratory Workers, and Hospital Patients*

—	– in 1-16	+ in 1-16	+ in 1-32	+ in 1-64	Total
Females	229 = 89 45 /	22 = 8 59 /	5 = 1 95 /	—	256
Males	504 = 94 56 /	26 = 4 87 /	2 = 0 18 /	1	533
Total	733 = 92·9 /	48 = 6 08 /	7 = 0 88 /	1 = 0 12 /	789

From the above table it will be seen that out of the total of 789 cases examined, 56, or 7 09 per cent, gave a positive result [2] But of these, 48 only give a positive result in a dilution of 1 in 16, and of these only 17, or 2 per cent, give complete agglutination in that dilution Of the 7 giving a positive result in dilution 1 in 32 5 were incomplete, and inquiries made on the lines already indicated elicited the following information concerning the other 2 One was confined to bed for a fortnight in 1911 suffering from "gastric catarrh," and the other, "about the age of 13 (seven years ago) was much in contact with a maid who a few months previously had had a severe attack of typhoid " No explanation of the case giving a positive reaction in dilution 1 in 64 could be obtained From the above figures the following conclusions may be drawn 1 As only 25 cases, or 3 1 per cent of the total examined, gave a complete agglutination in dilution 1-16, a complete positive result in this dilution should be looked upon with suspicion 2 As only 8, or 1 per cent of the total examined, gave any reaction in a dilution 1-32, complete agglutination in this dilution, when the investigation is carried out according to the technique described, should be looked upon as diagnostic The difference between the sexes, as shown by the above table, is discussed later

TABLE II —*Showing Results obtained from Examination of 50 Hospital Patients*

– in 1-16	+ in 1-16	+ in 1-32.
37 = 74 /	11 = 22 /	2 = 4 /

TABLE III —*Showing Results obtained from Examination of 57 Medical Students and Laboratory Workers*

– in 1-16	+ in 1-16	+ in 1-32.	+ in 1-64
43 = 75 4 /	6 = 10 5 /	4 = 7 /	4 = 7 /

B Paratyphosus A

The results obtained with this organism were even more definite than those for the B typhosus Of the 792 cases examined only one gave a positive result in a higher dilution than 1 in 16, and in this case there was a history of an attack of 'food poisoning' 18 months previously In view of the fact that mild cases of typhoid and paratyphoid fever are frequently not diagnosed as such, it is not perhaps improbable that this man had had an attack of paratyphoid fever at that time

TABLE IV —*Showing Results obtained from the Examination of the Blood of 792 Normal Persons, excluding Hospital Patients, Medical Students, and Laboratory Workers*

—	– in 1-16	+ in 1-16	+ in 1-32	+ in 1-64	Total
Females	245 = 95 33 /	12 = 4 66 /	—	—	257
Males	525 = 98 13 %	9 = 1 68 %	—	1 = 0 18 %	535
Total	770 = 97 2 /	21 = 2 63 /	—	1 = 0 12 /	792

Of the 21 cases giving a positive result in dilution 1-16, 10 were incomplete There were therefore only 12 out of the 792 cases, or 1 5 per cent which gave a complete agglutination in this dilution Conclusions —1 Complete agglutination in dilution 1-16 should be looked upon with suspicion 2 Complete agglutination in a higher dilution is practically diagnostic

TABLE V —*Showing Results obtained from Examination of the Blood of 59 Hospital Patients*

– in 1-16	+ in 1-16	+ in 1-32	+ in 1-64	Total
53 = 89 8 /	2 = 3 38 /	2 = 3 38 /	2 = 3 38 /	59

TABLE VI —*Showing Results obtained from Examination of 63 Medical Students and Laboratory Workers*

– in 1-16	+ in 1-16	+ in 1-32	+ in 1-64	Total
60 = 95·2 /	3 = 4 7 %	—	—	63

B Paratyphosus B

Here the results obtained were the most definite in the whole investigation

TABLE VII —*Showing Result of Examination of the Blood of 792 Normal Persons*

—	– in 1-16	+ in 1-16	+ in 1-32	+ in 1-64	Total
Females	246=95 71 %	11=4 28 /	—	—	257
Males	513=95 88 /	22=4 11 /	—	—	5
Total	759=95·83 /	33=4 16 /	—	—	792

Of the 33 cases showing a positive result in dilution 1-16, only 9, or 1 1 per cent, gave *complete agglutination* Conclusions 1 Complete agglutination in dilution 1-16 is extremely suspicious 2. Complete agglutination in a higher dilution is practically diagnostic

TABLE VIII —*Showing Results obtained from 59 Hospital Patients*

– in 1-16	+ in 1-16	+ in 1 32.	+ in 1 64
53	5	—	1

TABLE IX —*Showing Results obtained from 63 Medical Students and Laboratory Workers*

– in 1-16	+ in 1-16
58 = 92 /	5 = 7·9 /

So far the results of our investigation have been fairly satisfactory in that they have shown that normal serum does not agglutinate the various organisms already dealt with except in low dilutions and even then only in a small percentage of cases But when we come to study the results obtained in connexion with the dysentery group of bacilli the dividing line between normal and ' abnormal sera is not so definite Normal serum agglutinates the dysentery bacilli in much higher dilutions than in the case of the typhoid and paratyphoid group Thus the interpretation to be placed on results obtained from doubtful cases of dysentery is rendered uncertain unless the res is positive in a fairly high dilution

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[2] It may perhaps be as well to point out that the word positive" may be used in two different senses—(a) the biological and (b) the clinical sense In these tables the phrase positive result" is used purely in the biological sense—i e in the given dilutions more or less agglutination occurred

B Dysenteriæ (Shiga)

TABLE X —*Showing Results obtained from Examination of the Blood of 792 Normal Persons*

—	— in 1-16	+ in 1-16	+ in 1-32.	+ in 1-64	+ in 1-128	Total
Females	59=22 9 /	65=25·29 %	116=45 1 /	15=5 8 %	2=0·77 /	257
Males ..	194=36·26 %	194=36·26 %	127=23 73 %	13=2 4 /	7=1 3 /	535
Total	253=31·9 /	259=32 7 /	243=30 68 %	28=3 5 /	9=1 13 /	792

From the above table it will be seen that 4 6 per cent. give a positive reaction in dilution 1–64, and 1 13 per cent a positive reaction in dilution 1–128 Of the 28 giving a positive result in 1–64 only 6 were complete Of these 6, 1 had travelled extensively on the continent and 1 a builder, had worked for some time in an asylum Conclusion —Complete agglutination in a dilution 1–64 and above should be regarded as diagnostic

TABLE XI —*Hospital Patients*

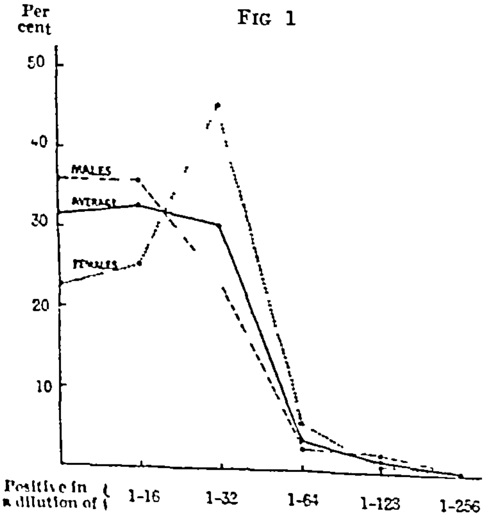
— in 1-16	+ in 1-16	+ in 1-32.	+ in 1-64	+ in 1-128.	Total
17	16	17	6	1	57

TABLE XII —*Medical Students and Laboratory Workers*

— in 1-16	+ in 1-16	+ in 1-32.	+ in 1-64	Total
12	27	18	3	60

The results given above, excluding hospital patients, medical students and laboratory workers, are graphically represented in the appended chart (See Fig 1)

FIG 1



Agglutination reaction of normal serum with the Shiga bacillus

B Dysenteriæ (Flexner)

As it was found that the majority of samples of normal blood agglutinated this bacillus in a dilution of 1-64 this was taken as the lowest dilution for our investigation

TABLE XIII —*Showing Results of Examination of Blood of 792 Normal Persons*

—	— in 1-64	+ in 1-64	+ in 1-128	+ in 1-256	+ in 1-512	Total
Females	42=16 34 /	84=32·68 %	120=46·69 %	7=2 72 %	4=1·55 %	257
Males	170=31 77 %	243=45 42 %	119=22·2 %	2=0·37 /	1=0 18 %	535
Total	212=26 77 %	327=41 29 %	239=30 17 %	9=1 13 /	5=0·63 /	792

Of the 14 shown above as giving a positive result in a higher dilution than 1-128 it will be noticed that 11 are females Six of the 14 gave incomplete results in dilution 1-256

TABLE XIV —*Hospital Patients*

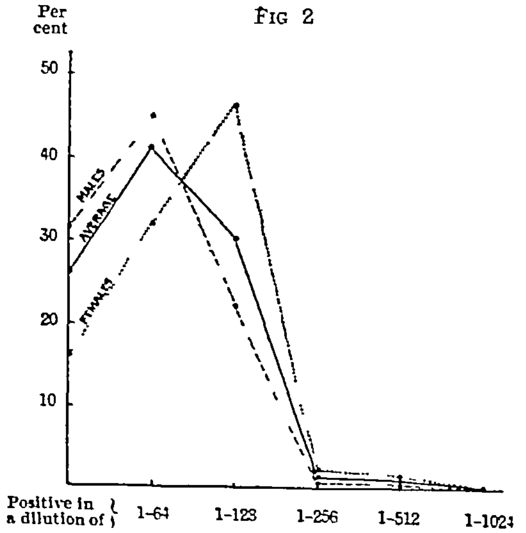
— in 1-64	+ in 1-64	+ in 1-128	+ in 1-256	Total
17	19	22	—	58

TABLE XV —*Medical Students and Laboratory Workers*

— in 1-64	+ in 1-64	+ in 1-128	+ in 1-256	+ in 1-512.	+ in 1-1024	Total
15	14	23	3	1	2	58

The 6 giving a positive result in dilutions 1–256 or over are all workers in bacteriological laboratories where investigations are being carried out on cases of dysentery, except one man, a medical student, who cannot account for his blood agglutinating the Flexner bacillus in dilution 1–1024 The other case where a positive result was obtained in dilution 1–1024 is interesting This woman a worker in the bacteriological laboratory, was absent from work for two days owing to an attack of diarrhœa, but was able to resume work on the third day Her blood was examined two days after her return, when it was found to agglutinate the Flexner bacillus as shown above The woman working with her is the one shown as positive in a dilution of 1–512 Both had probably been infected with the Flexner bacillus, yet in one case it passed unnoticed, and in the other resulted in only two days absence from work It is therefore quite possible that many mild attacks of dysentery due to this bacillus pass unrecognised

FIG 2



Agglutination reaction of normal serum with the Flexner bacillus

Conclusions to be drawn from Tables XIII XIV, and XV —In the case of the Flexner bacillus complete agglutination in a dilution above 1–128 should be looked upon as diagnostic but in a dilution of 1–128 or lower cannot be relied upon for diagnostic purposes

Influence of Sex

One interesting result of this investigation has been the uniformly higher percentage of positive results obtained from the females than from the males, as shown by the following figures —

Percentage of Positive Results obtained in a Dilution of 1–16

	Females	Males
B Typhosus	10 54 per cent	5 44 per cent
B Paratyphosus A	4 66 „	1 86 „
B Paratyphosus B	4 28 „	4 1 „

The differences in the case of B dysenteriæ (Shiga and Flexner) are shown in the curves given under their respective headings

There is of course the possibility of a certain amount of error in calculating differences between the sexes when the results obtained from 256 females are compared with those obtained from 533 males But Dr John Brownlee of the

Statistical Department of the Medical Research Committee, has calculated that with these figures the probability of error is about 1 in 50

The above figures are interesting when compared with the statistics for the various infectious diseases as given in the Registrar General's report and in the statistical records of various epidemics in Great Britain In practically every case the number of males affected exceeds that of females, and the percentage death rate is higher in the case of males The above figures therefore seem to point to the same conclusion as may be drawn from statistics of infectious diseases, &c —namely, that females possess greater resisting powers to disease than males

Summary of Conclusions drawn from the Foregoing Investigation

1 *B Typhosus* —(*a*) Complete agglutination in a dilution of 1–16 should be looked upon with considerable suspicion (*b*) Complete agglutination in a higher dilution (1–32 or above) should be looked upon as diagnostic

B Paratyphosus A and B —Complete agglutination in a dilution 1–16 is suspicious, and in 1–32 or higher may be looked upon as diagnostic

B Dysenteriæ (*Shiga*) —Complete agglutination in a dilution of 1–64 and above should be regarded as diagnostic

B Dysenteriæ (*Flexner*) —Complete agglutination in a higher dilution than 1–128 should be looked upon as diagnostic, but in a dilution of 1–128 or lower it cannot be relied upon for diagnostic purposes

2 In the case of medical students, laboratory workers, and the hospital class of the population the tables given show that a larger percentage respond to the test in higher dilutions than do "normal" members of the population This must be taken into consideration in applying the above conclusions

THE CAUSATION AND CURE OF CERTAIN LUNACIES

BY RUPERT FARRANT, F R C S ENG,

CAPTAIN R.A.M C LATE HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND SURGICAL REGISTRAR TO WESTMINSTER HOSPITAL

BEFORE going on foreign service for a second year, I wish to publish the following preliminary conclusions and summary of work carried on during the last seven years directed to the causation and cure of lunacy The work is a continuation of that previously published on the thyroid gland in the elucidation of goitre and exophthalmic goitre [1]

The work consists of the microscopical examination of sections taken from the pineal, pituitary, thyroid, and sexual glands, firstly at different ages and periods of life such as puberty, menopause, and childbirth, secondly, the effect induced in these glands by the acute and chronic toxæmias, and, thirdly, the changes found in cases of lunacy

Clinical examinations were carried out of cases exhibiting signs of enlargement or atrophy of these glands and symptoms of excess or diminution of secretion. Similar examinations have been made on all classes of lunacy for the presence of signs and symptoms Photographs and X ray examinations have been made to illustrate their occurrence

Mental cases and others have been examined for the presence of toxæmias inducing the alteration in the glands and the consequent induction of symptoms of excess and deficiency

Bacteriological examinations have been made of the fæces of lunatics and the colons examined post mortem

From some 3000 sections it is found that these glands vary at different ages and periods of life, with advance of life they tend to atrophy

It is found that the pineal reacts to certain toxæmias, the ultimate result of which is fibrosis

The pituitary reacts in a similar manner, the terminal result of which is fibrosis intermediate stages of hyper activity are seen and the formation of cysts and adenomata.

The reaction of the thyroid to certain toxæmias with the induction of hypertrophy, cysts, and adenomata I have already described in my lectures as Hunterian professor in 1915 A comparison was made of such specimens with those obtained from cases of lunacy (apart from those in which a definite pathology has already been proved such as general paralysis of the insane (other syphilis cases) meningitis head injuries, &c) The effect of age and of the lethal toxæmias was discounted, and the state of the glands in cases of lunacy determined

In primary and secondary amentia atrophy of the pineal, pituitary, and thyroid were found in three main groups of cases

In dementia præcox an alteration was found in the glands which varied with the duration of the case Alteration and degeneration were also found in other cases of dementia. In some cases of acute confusional mania, melancholia, manico-depressive and other forms of insanity changes were found in the thyroid, pituitary, and sexual glands The changes varied from hypertrophy to atrophy

Clinical examinations were made of some 1000 cases of insanity, analogous to those from which the pathological sections had been prepared, for signs of enlargement or atrophy and the presence of excess or deficiency of secretion from these glands

The thyroid gland was frequently found to be abnormal in children, adolescents, and adult lunatics, its size varied from complete atrophy and the general condition from one of hyperthyroidism and exophthalmic goitre to myxœdema and cretinism

The pituitary gland was found sometimes to have given rise to symptoms of hyperpituitarism, to apituitarism in idiocy, dementia præcox, and other forms of insanity Enlargement and atrophy of the pituitary were deduced from X ray photographs of the sella turcica and clinoid processes Signs of alteration in the pineal were found especially in children and adolescents with consequent symptoms of hyper and a pinealism

Sexual glands —Alteration was found in the size of the testicles associated with ductless gland changes Testicular atrophy was well seen in cases of apituitarism From the histories of cases it was deduced that the stimulation of the sexual organs and its sudden cessation was associated with altered mentality varying from mania to exhaustion psychosis, altered mentality was also found in cases of double castration Hypertrophy of the prostate was often found to be associated with altered mentality, and after complete removal cases were frequently associated with depression or melancholia

Some 200 cases were examined for obvious signs of chronic toxæmia Pyorrhœa and carious teeth were found to be a frequent accompaniment of lunacy in adults, in certain cases signs of chronic intestinal stasis and toxæmia were well marked

Bacteriological examination of the fæces were made in some 100 cases for simple aerobic infections (apart from cases of asylum dysentery)

Streptococci were found up to 100 per cent and the total exclusion of bacillus coli in some cases of mania Streptococci were also found from vaginal swabs of puerperal mania.

Colons have been examined post mortem and found to exhibit changes varying from normal to cases with pericolitis fibrous thickening of the walls of the gut and atrophy of the mucous membrane, and other cases with dysenteric ulceration

It is deduced that many cases of lunacy may be classified according to the toxæmia present and the change that it has induced in the ductless glands

The effect of the toxæmia varies with the intensity, duration and the age of the patient, the first effect is stimulation the final, fibrosis In the fœtus and in childhood an acute or chronic toxæmia may induce atrophy of a ductless gland and consequent maldevelopment and idiocy Three groups stand out when the pituitary pineal, or thyroid is atrophied. Cases of dementia præcox exhibit a polyglandular syndrome and different gland types are to be found and the appearances of the cases vary whether the gland is hypertrophic or atrophic

In adults certain toxæmias react on these glands especially the thyroid and pituitary and induce stimulation, hypertrophy, and finally atrophy The alteration in the amount of secretion whether excess deficiency, or absence induces an altered mental state and this combined with the effect of the toxæmia renders the patient insane or liable to insanity from slight mental stress. Alteration in the sexual glands whether primary or secondary, leads to altered mentality up to insanity.

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[1] THE LANCET March 7th 1914 p 680

The lines on which beneficial treatment may be carried out based on the above pathology become obvious; it may be summed up by saying that toxæmias, if present, should be removed by medicinal or surgical measures and the glands allowed to involute if they are hypertrophied, or if they are degenerated with deficient secretions these secretions should be supplied. Good results may be expected before cortical brain lesions have taken place.

Careful experimental treatment with control cases is at present being carried out for me at Bethlem Royal Hospital by Dr. J. G. P. Phillips, commencing with the simpler medicinal treatment.

In a work of this nature due credit must be given to those who have so kindly given me pathological material and access to clinical cases. Full acknowledgment will be made when the work is published in detail. Dr. Braxton Hicks has supervised the collection of pathological material during the last year.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

◆

NOTES ON THREE INTERESTING GUNSHOT WOUNDS

BY PERCY C. WOOLLATT, F.R.C.S. EDIN.,
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DURING some years residence in Persia an enormous number of gunshot and other wounds fell to my lot for treatment. I have selected the three following as being uncommon and interesting.

CASE 1. *Gunshot wound of heart; recovery.*—A gendarme was contemplating the purchase of a revolver, and at the moment the seller was handing it to him it accidentally discharged at a distance of about 2 feet. The bullet was leaden and 9 mm. bore, and penetrated the sternum. On my arrival at the hospital the patient had extreme pallor and very rapid pulse and urgent dyspnœa. I was horrified to see that an assistant had cleaned up and passed a probe, the handle of which was moving with a circular *motion*. I requested him to leave the probe where it was and rapidly cleaned up. On taking the probe I noticed that it was "gripped" by the heart and that the circular movement was due to the heart's action. The bullet was not felt and probing further being out of the question I slowly withdrew the probe, which I found had passed in 2¼ inches. A brisk hæmorrhage followed, which in a minute or so ceased spontaneously. The aperture of the wound was half an inch above the xiphisternum and inclined to the left from the middle line. The bullet apparently struck at an angle of about 40 degrees. On auscultation a tumultuously beating heart was audible, also a "mill sound"—i.e., air in the sac of the pericardium. In the lung nothing abnormal was noted; there were no signs of injury of the pleura. A hypodermic injection of morphia was given and a dry dressing applied, no drain. I decided to watch and wait. On the following day respiration and pulse were much improved. An improvement was noted on the second day, the temperature being normal. On the third day a pericardial rub was audible, the pulse and respiration were practically normal, while the temperature was normal. The patient made an uneventful recovery, the pericardial rub was inaudible after the eighteenth day, and he was back on duty within six weeks. He never exhibited any signs of thrombi.

On the day of the accident owing to the patient's collapsed condition and to the fact that he was no appreciably worse than at the time of his admission some 20 minutes before I decided not to operate unless absolutely necessary, feeling pretty certain that during the next few days if he survived I should be compelled to do so on account of some infection. The hospital did not possess an X ray apparatus, therefore the position of the bullet could not be determined. The right ventricle was wounded, but as this structure in thickness is normally less than half the diameter of the bullet it may have been injured where the septum joins it and [illegible] in the heart's apex. On the other hand we may assume that the bullet traversed both the ventricles near the apex and came to rest between the pericardium and pleura. I think the latter the more probable of the two.

CASE 2. *Gunshot wound of the chest by large leaden ball; recovery.*—A muleteer was shot by a thief who apparently stood on an eminence. The wound was some five days old, as the patient was about 50 miles away at the time. The missile was a leaden ball which had been fired from an obsolete 12 bore muzzle loader. The left clavicle had been comminuted at about the junction of its inner and middle thirds. There was some cough but no sanguineous expectoration. A rounded tumour was easily discerned in the tenth interspace in the scapular line on the same side. The patient was anæmic, due to primary hæmorrhage. Auscultation of the chest elicited nothing abnormal. The wound over the clavicle was healing by first intention and was closed, but, of course, the clavicle needed treatment by Sayre's method. The tumour was incised and the leaden ball removed. The patient made an uninterrupted recovery, and excepting a little shortening of the clavicle was none the worse for his injury.

This case is interesting as a large leaden ball traversed the chest perforating both pleuræ and no infection resulted.

CASE 3. *Gunshot wound of head; infection; recovery.*—A thief was shot by a soldier some days' journey out of town. He was treated by a native surgeon and brought into hospital. There was a wound of entry, apparently caused by a 7 mm. Mauser bullet, situated 1 inch to the left of the inion; there was no exit wound. The Persian surgeon had accompanied the patient and informed me that he had probed the wound every day, so I expected to find it infected, which it was, but only of a mild nature, apparently limited to the lower half of the track. A probe passed 2¾ inches and by its *direction* I located the bullet in the cortex of the frontal lobe about 1 inch anterior and to the left of the mid sagittal point. The *man* was well *over 1000* yards away from the soldiers when shot, it being a "chance" shot, hence the bullet's non-emergence. The wound was *dressed daily* and there was no indication for surgical interference. With the exception of occasional headaches which yielded readily to the influence of bromide of potassium and disappeared entirely at the expiration of a month, the patient *made an* uninterrupted recovery. When I saw him four years afterwards he said he felt nothing wrong.

Royal Naval Hospital, Haslar, Gosport.

A CASE OF ŒDEMATOUS LARYNGITIS

BY ARCHIBALD KIDD, M.R.C.S., L.R.C.P. LOND., D.P.H.,
ASSISTANT MEDICAL OFFICER, PORT OF LONDON SANITARY AUTHORITY

THE following case appears to me to be worth recording.

At 2 A.M. on May 21st I received an urgent message that a man on board a ship *lying in the river* had been taken suddenly ill and was apparently dying. On boarding the ship ten minutes later I found that the man was already dead. In reply to inquiries I was informed that he was a fireman, aged 22 years, who had joined the ship about a *fortnight* previously and was apparently in perfect health. When he came off watch at midnight he was in his usual health and laughing and joking. At 12.45 he complained of being unable to get his breath and was apparently suffocating. It was supposed by his mates that a piece of food had stuck in his throat and with a view to dislodging this he was inverted and attempts were made to clear his throat. For a few minutes he appeared to get better, but he then rapidly became worse and died at 1.30.

A post-mortem examination showed the body to be that of a well-developed young man presenting the usual signs of death from asphyxia. At the tip of the epiglottis was a small scar, and at the base and on the mucous membrane of the larynx immediately adjoining was a small ulcer. The epiglottis itself and the ary*epiglottidean* folds were swollen and œdematous and almost meeting in the middle line.

The interest of the case, I think, lies in the extreme suddenness of the onset and the rapidity with which death supervened. I was unable to obtain any history in regard to the scar on the epiglottis, and though *fresh* ulceration was present the man had made no complaint of sore-throat and, as already mentioned, the onset of symptoms was so sudden as to lead his mates to suppose a piece of food had stuck in his throat.

Œdematous laryngitis is recognised as sometimes occurring in chronic diseases of the larynx, such as syphilis or tubercle, but I have been unable to find any record of a case in an apparently healthy young man in which death took place in less than an hour and in which the first symptom was urgent dyspnœa.

Gravesend.

Statistical Department of the Medical Research Committee, has calculated that with these figures the probability of error is about 1 in 50

The above figures are interesting when compared with the statistics for the various infectious diseases, as given in the Registrar General's report and in the statistical records of various epidemics in Great Britain In practically every case the number of males affected exceeds that of females, and the percentage death rate is higher in the case of males The above figures therefore seem to point to the same conclusion as may be drawn from statistics of infectious diseases, &c —namely, that females possess greater resisting powers to disease than males

Summary of Conclusions drawn from the Foregoing Investigation

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B Dysenteriæ (*Flexner*) —Complete agglutination in a higher dilution than 1–128 should be looked upon as diagnostic, but in a dilution of 1–128 or lower it cannot be relied upon for diagnostic purposes

2 In the case of medical students, laboratory workers, and the hospital class of the population the tables given show that a larger percentage respond to the test in higher dilutions than do "normal" members of the population This must be taken into consideration in applying the above conclusions

THE CAUSATION AND CURE OF CERTAIN LUNACIES

BY RUPERT FARRANT, F R C S ENG,
CAPTAIN R.A M C LATE HUNTERIAN PROFESSOR ROYAL COLLEGE OF SURGEONS OF ENGLAND SURGICAL REGISTRAR TO WESTMINSTER HOSPITAL.

BEFORE going on foreign service for a second year, I wish to publish the *following preliminary conclusions* and summary of work carried on during the last seven years directed to the causation and cure of lunacy The work is a continuation of that previously published on the thyroid gland in the elucidation of goitre and exophthalmic goitre [1]

The work consists of the microscopical examination of sections taken from the pineal, pituitary, thyroid, and sexual glands, firstly at different ages and periods of life such as puberty, menopause, and childbirth, *secondly*, the effect induced in these glands by the acute and chronic toxæmias, and, thirdly, the changes found in cases of lunacy

Clinical examinations were carried out of cases exhibiting signs of enlargement or atrophy *of these glands and symptoms* of excess or diminution of secretion. Similar examinations have been made on all classes of lunacy for the presence of signs and symptoms Photographs and X ray examinations have been made to *illustrate their occurrence*

Mental cases and others have been examined for the presence of toxæmias inducing the alteration in the glands and the consequent induction of symptoms of excess and deficiency

Bacteriological examinations have been made of the fæces of lunatics and the colons examined post mortem

From some 3000 sections it is found that these glands vary at different ages and periods of life, with advance of life they tend to atrophy

It is found that the pineal reacts to certain toxæmias, the ultimate result of which is fibrosis

The pituitary reacts in a similar manner, the terminal result of which is fibrosis intermediate stages of hyperactivity are seen and the formation of cysts and adenomata

The reaction of the thyroid to certain toxæmias with the induction of hypertrophy cysts and adenomata I have already described in my lectures as Hunterian professor in 1915 A comparison was made of such specimens with those obtained from cases of lunacy (apart from those in which a definite pathology has already been proved such as general paralysis of the insane (other syphilis cases) meningitis head injuries, &c.) The effect of age and of the lethal toxæmias was discounted, and the state of the glands in cases of lunacy determined

In *primary* and secondary amentia atrophy of the pineal, pituitary, and thyroid were found in *three main* groups of cases

In dementia precox an alteration was found in the glands which varied with the duration of the case Alteration and degeneration were also found in other *cases* of dementia. In some cases of acute confusional mania, melancholia, manico-depressive and other forms of insanity changes were found in the thyroid, pituitary, and sexual glands The changes varied from hypertrophy to atrophy

Clinical examinations were made of some 1000 cases of insanity, analogous to those from which the pathological sections had been prepared for signs of enlargement or atrophy and the presence *of excess or deficiency of* secretion from these glands

The thyroid gland was frequently found to be abnormal in children, adolescents, and adult lunatics, *its size* varied *from complete* atrophy and the general condition from one of hyperthyroidism and exophthalmic goitre to myxœdema and cretinism

The pituitary gland was found sometimes to have given rise to *symptoms of* hyperpituitarism, to apituitarism in idiocy, dementia præcox, and other forms of insanity Enlargement and atrophy of the pituitary were deduced from X ray photographs of the sella turcica and clinoid processes *Signs of alteration in the pineal were found* especially in children and adolescents with consequent symptoms of hyper and a pinealism

Sexual glands —Alteration was found in the size of the testicles associated with ductless gland changes Testicular atrophy was *well seen in cases of apituitarism From the* histories of cases it was deduced that the stimulation of the sexual organs and its sudden cessation was associated with altered mentality varying from mania to exhaustion psychosis, *altered* mentality was *also found in cases of double* castration Hypertrophy of the prostate was often found to be associated with altered mentality, *and after complete* removal cases were frequently associated with depression or melancholia

Some 200 cases were examined for obvious signs of chronic toxæmia Pyorrhœa and carious teeth were found to be a frequent accompaniment of lunacy in adults, in certain cases *signs of chronic intestinal stasis* and toxæmia were well marked

Bacteriological examination of the fæces were made in some 100 cases for simple aerobic *infections (apart from cases of asylum* dysentery)

Streptococci were found up *to* 100 per cent and the total exclusion of bacillus coli in some cases of mania Streptococci were also *found from* vaginal swabs of puerperal mania

Colons have been examined post mortem and found to exhibit changes varying from normal to cases with pericolitis fibrous thickening of the walls of the gut, and atrophy of the mucous membrane, and other cases with dysenteric ulceration

It is deduced that many cases of lunacy may be classified according *to the toxæmia present* and the change that it has induced in the ductless glands

The effect of the toxæmia varies with the intensity, duration and the age of the patient, the *first* effect is stimulation the final, fibrosis In the fœtus and in childhood an acute or chronic toxæmia may induce atrophy of a ductless gland and consequent maldevelopment and idiocy Three groups stand out when the pituitary pineal or thyroid is atrophied Cases of dementia precox exhibit a polyglandular syndrome and different gland types are to be found and the appearances of the cases vary whether the gland is hypertrophic or atrophic

In adults certain toxæmias react on these glands especially the thyroid and pituitary and induce stimulation hypertrophy, and finally atrophy The alteration in the amount *of secretion* whether excess deficiency, or absence induces an altered mental state and this combined with the effect of the toxæmia renders the patient insane or liable to insanity from slight mental stress Alteration in *the sexual glands*, whether primary or secondary, leads to altered mentality up to insanity

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[1] THE LANCET March 7th 1914 p 630

The lines on which beneficial treatment may be carried out based on the above pathology become obvious, it may be summed up by saying that toxæmias, if present, should be removed by medicinal or surgical measures and the glands allowed to involute if they are hypertrophied, or if they are degenerated with deficient secretions these secretions should be supplied Good results may be expected before cortical brain lesions have taken place

Careful experimental treatment with control cases is at present being carried out for me at Bethlem Royal Hospital by Dr J G P Phillips, commencing with the simpler *medicinal treatment*

In a work of this nature due credit must be given to those who have so kindly given me pathological material and access to clinical cases Full acknowledgment will be made when the work is published in detail Dr Braxton Hicks has supervised the collection of pathological material during the last year

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

NOTES ON THREE INTERESTING GUNSHOT WOUNDS

BY PERCY C WOOLLATT, F R C S EDIN,
ASSISTANT MEDICAL SUPERINTENDENT L.E.T.D LATE MEDICAL OFFICER H B M S CONSULATE, ALSO CHIEF OF MEDICAL DEPARTMENT 3RD REGIMENT PERSIAN IMPERIAL GENDARMERIE, SHIRAZ PERSIA.

DURING some years residence in Persia an enormous number of gunshot and other wounds fell to my lot for treatment I have selected the three following as being uncommon and interesting

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Clinical examinations were carried out of cases exhibiting signs of enlargement *or atrophy of these glands* and *symptoms* of excess or diminution of secretion. Similar examinations have been made on all classes of lunacy for the presence of signs and symptoms Photographs and X ray examinations have been made *to illustrate their occurrence*

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In adults certain toxæmias react on these glands, especially the thyroid and pituitary and induce stimulation hypertrophy and finally atrophy The alteration in the amount *of secretion* whether excess deficiency, or absence induces an altered mental state and this combined with the effect of the toxæmia renders the patient insane or liable to insanity from slight mental stress Alteration *in the sexual glands*

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[1] THE LANCET March 7th 1914, p 600

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF OBSTETRICS

Rotunda Reports

A MEETING of this section was held on May 19th, Dr GIBBON FITZGIBBON, the President, being in the chair

Sir WILLIAM SMYLY having read the Rotunda Reports

Sir ANDREW HORNE congratulated the governors of the hospital in granting Dr Henry Jellett a further extension of leave to do ambulance work. He regretted there was no mention of the subject of scopolamine-morphine treatment which has occupied so much attention in the lay press

Dr BETHEL SOLOMONS said that he had modified his views concerning scopolamine morphine anæsthesia since the publication of Dr Freeland's paper on the subject in 1909 He thought that "twilight sleep" was unsatisfactory unless the method was carried out by trained assistants and nurses—that it was impossible for the ordinary practitioner to give unless he was prepared to devote his whole time to the case He asked Dr Rowlette to state his opinion of the present position of sera and vaccines in the treatment of puerperal sepsis. He noted also that two of the patients in the Contracted Pelvis Table were not measured internally He was aware that the authorities at the Rotunda favoured mensuration by the Skutsch instrument, and he thought it would be a good thing if there was a separate table devoted to Skutsch pelvimetry as this would draw more attention to its use

Dr R D PUREFOY said he was not an enthusiast for scopolamine morphine anæsthesia. Amongst the patients who had died from sepsis he recollected that one had not been able to lie down for three weeks prior to admission because of great distress from hydramnios, the labour was slow, pains not ensuing for some days after rupture of the membranes Her aspect from her admission was that of a woman dying from pernicious anæmia He was a firm believer in the Skutsch pelvimeter and regretted that some still relied on the digital method

Dr R. J ROWLETTE said he thought that in the treatment of puerperal sepsis both vaccines and sera should be employed The vaccines should be autogenous but pending their preparation stock vaccines should be used The use of these agents did not preclude any other method of treatment which might be considered advisable in a particular case

Sir WILLIAM SMYLY said there had been so many changes in the personnel of the hospital staff during the year that it would be impossible to assign the degree of indebtedness to each member who had helped in compiling it but Dr J T Simpson had done most of the work in preparing the statistics of the report Regarding scopolamine-morphine he had given directions that one dose at least should be given to every patient who was in the first stage of labour, but not that it should be pushed to the degree described as "twilight sleep

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BRITISH OTO LARYNGOLOGICAL SOCIETY—A meeting of this society was held in the rooms of the Medical Society of London Chandos-street W on June 8th Mr Charles J Heath being in the chair Mr Heath having introduced the following motion several members and visitors spoke in its support —

> Notwithstanding the evidence contained in the report of the Bryce Commission regarding the brutality of the combatant branch of the German army the Fellows of the British Oto-Laryngological Society did not think it possible that members of the medical profession could have acted as Oberstabsarzt Dr Aschenbach and other German surgeons did in abandoning the British prisoners of war at Wittenberg camp during an epidemic of typhus fever They are not a little surprised that medical opinion in this behalf has not yet made itself heard in this and in neutral countries

The motion was seconded by Dr Frederick Spicer and was carried unanimously —Cases were shown by Dr Spicer and Mr Heath

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THE LATE SIR JOSEPH FAYRER AND FALMOUTH—At the last meeting of the Falmouth town council it was reported that the family of the late Sir Joseph Fayrer had presented a handsome marble bust of their father to the town council It was decided to place the bust in the council chamber one of the members remarking that no one had done more to make known the natural gifts of Falmouth than the late Sir Joseph Fayrer

Reviews and Notices of Books.

Localisation by X Rays and Stereoscopy

By Sir JAMES MACKENZIE DAVIDSON, M B, C M Aberd London H. K Lewis 1916 Pp xi + 72 Price 7s 6d net

Sir James Davidson has done a good service, particularly at the present time in publishing the well known and reliable methods of localisation mostly originated by himself, in this handy volume The general subject of radiography is not touched upon, and apart from some special points in the selection and properties of X ray tubes and a chapter on secondary rays and X ray protection, the author proceeds at once with the consideration of stereoscopic radiography The various steps in technique are clearly described, and here, as all through the volume the illustrations are themselves stereoscopic affording the strongest argument for the more general use of this method in radiography, so greatly is educational value thus increased. Rapid localisation, with more or less simple appliances, by triangulation is next described This method or some modification of it, is the one most commonly used during the present war, and for a large proportion of cases it answers extremely well For some cases more precise methods are necessary and in the following chapter we have the well-known "cross-thread" arrangement explained in detail Recent modifications have made the practice of this method more easy and rapid, and the results more certain in the hands of those whose experience has been less than that of the author himself A still further development for the most accurate localisation of foreign bodies in the eye follows and to this the author directs special attention, owing to the large increase in such injuries in hand grenade warfare Precision is essential if the victim is to have the best chance of saving an eye

In an appendix the author describes the telephone attachment in surgery, the electromagnet as an aid to localisation, and other matters of interest, concluding with a number of special stereoscopic radiographs which are very valuable in emphasising the advantages of the author's contentions

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Elementary Text book of Economic Zoology and Entomology

By V L KELLOGG and R W DOANE, Professors in Stanford University London Constable 1915 Pp 532 Price 6s 6d net

THIS text-book is the joint work of two American zoologists, teachers of zoology economic and otherwise in the Californian University and well qualified for their task Since economic or applied zoology must rest upon a basis of purely scientific zoology, the authors rightly deal first of all with the general facts of zoology, in this part of the handbook they survey the animal kingdom throughout wisely declining to be drawn into discussion on the differences between animals and plants and refraining from committing themselves to a definition on that matter A fairly comprehensive account of the structure of the frog grasshopper hydra and amœba serves as an introduction to a consideration of the main subdivisions of the animal world which are dealt with in order This general account is naturally not very full in view of the authors main object but what is given to us is clearly put and accurate at any rate so far as regards undisputed facts In more disputable matters it is doubtful whether the authorities of the Natural History Museum will agree with our authors when they say and with the emphasis laid on it in a footnote that the British Museum Catalogue of birds though tabulating 19 000 species should have left out "about 7000 forms considered by most (the italics are ours) ornithologists to be merely varieties

As the title of the book leads the reader to infer the economic section of zoology is developed more fully on the entomological side But it must not be supposed from this that other economic aspects of the science are so curtailed as to be useless to the commencing student Here again as elsewhere in the volume and as with other writers

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF OPHTHALMOLOGY

Exhibition of Cases and Apparatus —Pituitary Tumour

THE ordinary meeting of the section was held on June 14th, Mr PRIESTLEY SMITH, the President, being in the chair

Mr G H POOLEY sent the further notes of a case of Mikulicz's Disease previously shown A growth had been removed from the left orbit with some difficulty Vision in that eye steadily improved for some time but recently there were signs of return of the disease on the same side, though the scar was free from invasion. The removed material showed the appearances of small round celled sarcoma

Dr F R YELLAND showed a patient with Loss of Visual Orientation, following a wound four months previously Soon after being put to bed he had a genuine epileptic seizure and was inaccessible for 14 hours He afterwards presented right hemiplegia, which cleared up later, but he had erroneous visual projection. The condition was now improving —Mr LESLIE PATON, discussing the foregoing case, drew attention to a similar case under the care of Captain S Smith and Colonel Gordon Holmes [1] He narrated the results of the tests he had carried out with the present patient He had satisfied himself that the faulty projection was not due to defective eye movements He believed that there had been complete destruction of the right occipital cortex, the left visual sensory cortex having escaped very well There seemed to have been a complete severance of the superior longitudinal commissural fibres

Captain J F CARRUTHERS exhibited a case of Retinitis Pigmentosa of unusual character in a young man who had been a soldier only three months There was no family consanguinity, but a younger brother and an older sister suffered from night-blindness, and when dusk came on this patient could not see to drive, and declared sick, so that he had the same condition —The case was discussed by Mr W LANG, Mr STEPHEN MAYOU, Mr J B LAWFORD, the PRESIDENT, and Mr PATON

Captain A C HUDSON exhibited, in a tentative form, a Giant Perimeter, and invited suggestions for improvement — Lieutenant-Colonel R H ELLIOT gave his experiences with a giant perimeter which he had had made, and suggested possible improvements in the one now submitted

Dr A S COBBLEDICK read a paper on four cases of Pituitary Tumour The cases were all in women, and three were over 60 years of age The first case showed a contraction of the visual field of 10 to 20 degrees, and a scotoma for colour upwards and outwards from the central fixation point The colour scotoma bothered her a great deal when reading, and people's faces appeared bluish There was particular contraction in the temporal half of the field Later she had Cheyne Stokes breathing very violent headache, and became drowsy The pupils, however, were equal in reaction, and there was no papillitis Urine was normal Post mortem, a pituitary tumour the size of a walnut was found, and Dr Buzzard regarded it as a cyst There seemed to have been sufficient normal gland substance left to ensure normal metabolism during the six years the symptoms lasted The second case had right homonymous hemianopia and myxœdema The memory had become bad and the speech slurred and indistinct The family and previous personal histories were good She had well marked myxœdema and there was a lesion of the left optic tract probably due to pituitary growth Thyroid extract was given and there was improvement in the memory and in some numbness which had been present The appearance of the discs and the constitution of the urine were normal There was little material change in the patient's condition for three years but after that there was a fairly rapid deterioration of vision and the nervous condition increased, there were also vertigo and flickerings in front of the eyes Her feet and hands also became larger Later the symptoms resembled somewhat those of acute Meniere's disease but there was no deafness or sickness The third case had optic atrophy, obesity myxœdema, and diabetes During four years her sight had been gradually changing, and during the last year she had become very sleepy and drowsy There was no tendency to hemianopia in this case Her feet and hands were now definitely larger than 12 months ago, and the memory worse Skiagrams showed an enlarged and lobulated sella turcica Operation was declined He suggested that possibly the diabetes was due to implication of the posterior lobe of the pituitary, or it might be caused by pressure on the medulla The fourth case was aged 50, and her condition Dr Cobbledick diagnosed as early optic atrophy, myxœdema and pituitary tumour She had defective memory, thinning of the hair, suffocating feelings in the throat, heart attacks, and 12 months ago she was so ill that her life was despaired of Her discs appeared normal, but the vision for white was contracted in every direction Skiagrams showed distinct enlargement of the pituitary body, especially at the posterior part He regarded this as a suitable case for operation

The paper was discussed by the PRESIDENT, Mr PATON, Mr MAYOU, Mr W H H JESSOP, and Mr ARNOLD LAWSON and Dr COBBLEDICK replied

SECTION OF DERMATOLOGY

Demonstration of New Test for Syphilis —Exhibition of Cases

A MEETING of this section was held on June 15th, Dr J J PRINGLE, Vice President, being in the chair

Mr J E R McDONAGH demonstrated his New Test for Syphilis He said "As the protein particles in a syphilitic serum are larger and more numerous than those in a normal serum, proved by the ultra microscope, and by the facts that there is more protein nitrogen, more adsorbed amino-groups and more adsorbed electrolytes in the former than in the latter, a test has been devised to make these protein particles visible by precipitation As there are more protein particles in a syphilitic serum, the degree of the precipitate and the rapidity with which it forms will differ from that obtained in a normal serum To 2 c c of glacial acetic acid 0 5 c.c. of serum is added Four tubes are taken, each containing 1 c c of glacial acetic acid, and to these tubes are added 2, 4, 6, and 8 drops respectively of the acid serum Then 0 2 c.c of a saturated solution of lanthanum sulphate in glacial acetic acid is pipetted into each tube The degree of precipitate and the rapidity with which it forms are then noted"

Dr KNOWSLEY SIBLEY showed a case of Pityriasis Rubra Pilaris in a boy 17 years of age The rash commenced nine years ago after a supposed attack of measles The distribution was typical and as in most of the other cases recorded the palms were thickened and there were patches of cicatricial alopecia The patient had been treated with X rays with a little benefit —Dr PRINGLE drew attention to the fact that the disease was not differentiated from psoriasis in this country until 1898 and also to the close connexion between *pityriasis rubra pilaris* and *psoriasis* since one condition might merge into the other and *vice versa* The general impression of the meeting was that, although the condition might spontaneously disappear, treatment in general was unavailing

Dr GRAHAM LITTLE showed the following cases 1 A case of Darier's Disease The eruption began 12 years ago on the forehead since when it had affected most of the other parts of the body There were several lesions on the scalp but no loss of hair, there was a vertical splitting of the nails on the hands, and on the backs of both hands there were warty growths A section of one of the lesions was exhibited and it gave the typical picture—degenerated epithelial cells, resembling coccidial spores hence the original name ' psorospermosis The case had been under the care of Dr J M H McLeod, and had resisted all kinds of treatment which was what usually happened with these cases — Discussion arose as to its etiology, and some of the members thought it was probably parasitic and possibly in some way related to molluscum contagiosum ——2. Some sections of a Cystic Syringoma

Mr H C SAMUEL showed a case of a woman aged 65 who was suffering from Lichen Planus Hypertrophicus The interest of the case was that the lesions were spreading peripherally and leaving scars in the centre

Dr A FIDDOWES showed a case of a Bullous Eruption in a boy aged 5

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[1] Brit Med Jour March 25th 1916

ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF OBSTETRICS

Rotunda Reports

A MEETING of this section was held on May 19th, Dr GIBBON FITZGIBBON, the President being in the chair

Sir WILLIAM SMYLY having read the Rotunda Reports,

Sir ANDREW HORNE congratulated the governors of the hospital in granting Dr Henry Jellett a further extension of leave to do ambulance work. He regretted there was no mention of the subject of scopolamine-morphine treatment which has occupied so much attention in the lay press

Dr BETHEL SOLOMONS said that he had modified his views concerning scopolamine morphine anæsthesia since the publication of Dr Freeland's paper on the subject in 1909 He thought that 'twilight sleep was unsatisfactory unless the method was carried out by trained assistants and nurses—that it was impossible for the ordinary practitioner to give unless he was prepared to devote his whole time to the case He asked Dr Rowlette to state his opinion of the present position of sera and vaccines in the treatment of puerperal sepsis He noted also that two of the patients in the Contracted Pelvis Table were not measured internally He was aware that the authorities at the Rotunda favoured mensuration by the Skutsch instrument and he thought it would be a good thing if there was a separate table devoted to Skutsch pelvimetry as this would draw more attention to its use

Dr R. D PUREFOY said he was not an enthusiast for scopolamine morphine anæsthesia. Amongst the patients who had died from sepsis he recollected that one had not been able to lie down for three weeks prior to admission because of great distress from hydramnios, the labour was slow pains not ensuing for some days after rupture of the membranes Her aspect from her admission was that of a woman dying from pernicious anæmia He was a firm believer in the Skutsch pelvimeter, and regretted that some still relied on the digital method.

Dr R. J ROWLETTE said he thought that in the treatment of puerperal sepsis both vaccines and sera should be employed The vaccines should be autogenous but pending their preparation stock vaccines should be used The use of these agents did not preclude any other method of treatment which might be considered advisable in a particular case

Sir WILLIAM SMYLY said there had been so many changes in the personnel of the hospital staff during the year that it would be impossible to assign the degree of indebtedness to each member who had helped in compiling it but Dr J T Simpson had done most of the work in preparing the statistics of the report Regarding scopolamine morphine he had given directions that one dose at least should be given to every patient who was in the first stage of labour but not that it should be pushed to the degree described as "twilight sleep

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BRITISH OTO LARYNGOLOGICAL SOCIETY —A meeting of this society was held in the rooms of the Medical Society of London, Chandos-street W on June 8th Mr Charles J Heath being in the chair Mr Heath having introduced the following motion several members and visitors spoke in its support —

> Notwithstanding the evidence contained in the report of the Bryce Committee regarding the [illegible] the [illegible] the German army the Fellows of the British Oto-Laryngological Society [illegible] the medical profession [illegible] Dr [illegible] German surgeons in [illegible] the British prisoners of war at Wittenberg camp during an epidemic of typhus fever. They are [illegible] the medical [illegible] made [illegible]

The motion was seconded by Dr Frederick Spicer and was carried unanimously —Cases were shown by Dr Spicer and Mr Heath

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THE LATE SIR JOSEPH FAYRER AND FALMOUTH.—[illegible] the Falmouth Town Council [illegible] was [illegible] the family of the late Sir Joseph Fayrer [illegible] in the council [illegible] one of the members [illegible] Sir Joseph Fayrer [illegible]

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As the title of the book leads the reader to infer the economic side of zoology is developed more fully on the entomological side But it must not be supposed from this that other economic aspects of the science are so curtailed as to be [illegible] to the commencing student. Here again as elsewhere in the volume and as with other [illegible]

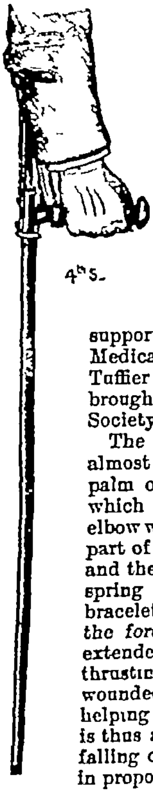
Professors Kellogg and Doane have been confronted with the pressing, but not easily soluble, problem of what to put in and what to leave out Economic zoology embraces a great variety of subjects, all of which form the material of many special treatises But we think that the authors have at least touched upon and extracted some essentials from all of these subdivisions of economic zoology in their very useful little treatise It may be pointed out, in conclusion, that the illustrations are numerous and to the point As the book is admittedly an introductory work, dealing only with the elements of zoology, no list of literature is given

JOURNALS

The Journal of Physiology Edited by J N LANGLEY, Sc D, F R S Vol L, No 4 Cambridge University Press 1916 Pp 217-264 Price 3s 6d —To this issue Professor J N Langley, professor of physiology in the University of Cambridge contributes an admirable sketch of the progress of discovery in the eighteenth century as regards the autonomic nervous system Professor Langley, who himself has added so largely to our knowledge of what used to be called the sympathetic nervous system, and for which he coined the title 'autonomic nervous system," gives a most interesting historical account of this system, excluding however, the work of Bichat, as his theory was developed chiefly in 1801 Early in last century it was the prevalent belief that all the nerves of the body had their origin in the brain and that the brain was the sole source of nervous influence The nerve described as "intercostal" until 1732 is now known as the sympathetic chain It was Winslow who introduced the term ' great sympathetic " Only a few of the ganglia in the cranial nerves had been described Those interested in the dates of discovery of the best known ganglia will find the facts on p 253 Two main functions were attributed to the intercostal nerve It was the means by which the brain influenced the viscera, and it was the chief means of nervous connexion between different parts of the body The views of Willis, Ridley, Vieussens, and others are passed in review Then follows a summary of the successive steps from 1727, when Petit contested the cerebral origin of the intercostal nerve the work of Winslow being published in 1732, and that of Monro in 1732 From 1732 to 1750 discovery in relation to the sympathetic system followed an uneventful course In 1751 Robert Whytt, of Edinburgh, published an essay "On the Vital and other Involuntary Movements of Animals" His conclusions were largely drawn from clinical experience and critical examination of the accounts of others The chief point of importance in the essay was that it laid the foundation for the subsequent more explicit statement that the great sympathetic was not specially concerned with the sympathies 1752 brings the author to Haller s paper on the sensibility and irritability of the different parts of the body Haller taught that contraction could be brought about by stimuli without the intervention of nerves, or of any other intermediary agent He considered that contractility was the inherent property of the glutinous as distinct from the earthy portion of muscle His theory of the independent irritability of muscles depended chiefly on his metaphysical conceptions The relative claims of Haller and Glisson regarding the doctrine of irritability are analysed and the modifications of Haller's theory by Fontana and Caldani are stated From 1764 to 1771 the functions of the ganglia began to be discussed a beginning being made in 1764 by James Johnstone Unzer in 1771 gave an analysis of the voluntary and involuntary movements based on the data contained in Haller s "Elementa Physiologica" dealing with "reflected actions ' Procharka in 1784 followed much the same line as Unzer From 1772 to 1799 there were a considerable number of anatomical observations upon the intercostal nerve and its branches chiefly on the connexions of the several cranial nerves with the intercostal In 1781 Fontana made a step forward in regard to the finer structure of nerve and muscle fibres His figures, Professor Langley points out, show indistinctly what were afterwards called the axis cylinder and the medullary sheath Experimental results new in kind were scanty during the eighteenth century Although the galvanic method of stimulation was introduced towards the end of the century it was not at this time applied in a way that gave decisive results No differences were recognised structurally between skeletal muscles and those of the viscera A muscle was something which contracted in virtue of inherent properties, but it was generally held that this could only be set in motion by nerves Mechanical and chemical stimuli were applied to various parts of the body during life and after death A most striking new observation however, was the contraction of the pupil and other effects on the eye following section of the intercostal nerve—i e, the cervical sympathetic nerve—by Petit an experiment no one seems to have repeated in the 70 years or so after the publication of Petit s paper in 1727

New Inventions

A NEW WALKING STICK CRUTCH



THE ordinary type of crutch with its head in the armpit has certain drawbacks If used continuously the crutch tends to set up irritation frequently leading to the formation of boils or, what is more serious, the compression of the large nerves may lead to troublesome palsies Even if these are avoided by special care, the use of the crutch inevitably tends to a deformation of the thorax and to atrophy of the arms, which are hardly called upon for any muscular action The injured lower limb, too, is unable to make any active effort in progression and becomes increasingly stiff and useless A French engineer, M Schlick of Nancy, had the ingenious idea of doing away with the armpit leverage and replacing it by a support for the forearm and hand The '*forearm lever walking stick crutch*' is the result The invention has had the support of Professor Michel, of Nancy (Nancy Medical Society, April 7th, 1915) and of Professor Tuffier chief surgeon to the Beaujon Hospital, who brought the crutch to the notice of the Surgical Society on June 30th, 1915

The Schlick walking stick crutch consists of an almost horizontal handle, which is grasped in the palm of the hand, and of a slightly sloped spring which supports the forearm from the wrist to the elbow when the arm hangs naturally The greater part of the weight of the body bears on the hand and the wrist, while the forearm resting upon the spring and the elbow which fits into the semi bracelet play rather an accessory part In walking the forearm is partially flexed but is almost fully extended when taking the weight of the body and thrusting it forward, at the same time the wounded limb bears more or less on the ground helping to carry the weight of the body There is thus a compensatory action, considerable work falling on the arms and the remainder on the legs in proportion to their ability to do it

The Schlick walking stick crutch therefore protects the user from the results of pressure on the armpit with its risk of paralysis of the arms Its use compels the active effort of hand, forearm arm and shoulder, and is thus an excellent exercise for the upper limb On its part the wounded lower limb functions as much as its strength allows it, the voluntary muscular contractions assist in restoring an impeded or sluggish circulation and in preventing atrophy and stiffness

We have seen this crutch and submitted it to a careful trial and can confirm the claims made on its behalf A naval officer who has been using the crutch for more than a year on account of a leg rendered nearly useless by injury finds that it is possible to move about much more quickly and dexterously than with an ordinary crutch, he can cover half a dozen miles or more without fatigue, climb stairs cross the streets and enter tramcars and omnibuses with ease His attitude is erect, and to the casual observer he appears to be using two sticks and not crutches at all The novice can become proficient in the use of the sticks within half an hour The invention has been patented in France, and Messrs S Maw Son and Sons are prepared to supply it in this country

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AN EFFICACIOUS REMEDY IN SEVERAL FORMS OF ANÆMIA, associated with constitutional diseases, and A POWERFUL RESTORATIVE when much blood has been lost by wounds sustained in action, by post-partum hæmorrhage, or in the course of surgical operations

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PALATABLE, APPETISING, and free from any constipating tendency

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GOLD MEDAL, INTERNATIONAL CONGRESS OF MEDICINE, LONDON, 1913.

MIST. DAMIANÆ CO. (HEWLETT'S).

MIST DAMIANÆ CO (Hewlett's) will be found to possess all the properties of Damiana, viz —Its alterative effects on the alimentary canal and tonic action upon the brain and nervous system generally It is a well known fact that exhaustion of the organs and tissues neurasthenia, and premature decay, are far more prevalent at the present day than ever before The causes are numerous and complex, but, perhaps, the principal reason is that multitudes have to toil harder with their brains than any previous race. The resulting cerebral anæmia is therefore, one of the most general complaints in modern life Not only is it found amongst the professional literary men, but busy merchants and overworked scholars are equally the subjects of enfeebled nerve power and deficient vitality

In all these various forms of loss of nerve power MIST DAMIANÆ Co (Hewlett's) is a powerful remedy, relieving the exhaustion and conferring renewed capacity for mental and physical endurance.

As a nerve tonic and brain stimulant it is unequalled, and its invigorating properties will be found invaluable in many diseases where there is great depression and exhaustion In paraplegia, hemiplegia, and partial paralysis, it is particularly indicated, and may be suitably and satisfactorily employed wherever a powerful nerve stimulant and restorative are required

Dose—One or Two Drachms in Water

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"I have tried your Mist. Damianæ Co. considerably in the dyspepsia of commencing phthisis, and can very strongly recommend its use in those cases It soothes the stomach wonderfully and enables the patient to take more food whilst acting as a powerful stimulant in relieving exhaustion."—Yours faithfully W H B—— B A. (Cantab) M R.C S L.S.A.

THE MEDICAL ANNUAL.— Damiana is not used so frequently in this country as in America, where its value as a tonic for Neurasthenia is well known Messrs Hewlett & Son put up a very excellent preparation of this drug combined with Nux Vomica and simple aromatics and [illegible] which is valuable [illegible] and yields very satisfactory results in treatment."—1903.

Dr L—— L—— writes —

"I have frequently prescribed your Mist. Damianæ Co and proved it efficient in treating Neurasthenia." Farnham (Hants.), Sep. 1903

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DISINFECTANT FLUID and its Clinical Applications.

The ACTIVE PRINCIPLES are:—

Peroxide of Hydrogen together with Thymol, soluble Camphor and small amounts of Formic and Acetic acids &c, dissolved in water

It is manufactured by the slow oxidation of the essential oils of turpentine eucalyptus and camphor in the presence of water

The ADVANTAGES of "Sanitas Fluid" are —

1 That it *liberates oxygen*, instead of absorbing it—as many coal tar antiseptics do Therefore it enriches the air of any room in which it may be employed Moreover, its clean, aromatic odour gives an invigorating sensation of freshness to the sick room

2 It is *colourless*, and *does not stain* or rot linen

3 It is *non poisonous* and may therefore be employed for internal medication in dysentery, enteric fever typhus fever, and all gastro-intestinal infections, including the acute summer ileocolitis of infants It may also with advantage be employed as a gargle or as a mouthwash

4 It is *stable in the presence of acids*, and of *albuminous or greasy substances* Its efficiency is not impaired by contact with these, consequently it is particularly suitable as a dressing for discharging surgical wounds

Its EFFICIENCY

has been tested both by test-tube experiments with pure cultures of pathogenic organisms, and by its power of destroying living pus, &c

Dr Thresh, of the London Hospital, has shown that —

A 20 per cent solution of "Sanitas Fluid" kills B Typhosus in 2½-5 minutes
A 40 per cent solution kills B Diphtheriæ in 20 minutes
Pure "Sanitas Fluid" kills B Diphtheriæ in less than one minute
A 50 per cent solution kills B Anthracis in 10-15 minutes
Pure "Sanitas Fluid" kills B Anthracis in 2½ minutes
"Sanitas Fluid," when used as spray, kills dried smears of B Typhosus in 20 30 minutes

Dr William R Smith the Principal of the Royal Institute of Public Health has demonstrated that "Sanitas," in a dilution of not more than 1 in 10 will destroy the *spores* of the Anthrax Bacillus as contained in Horsehair bundles, in 24–36 hours

Drs Thresh and Beale, working at the London Hospital tested the destructive power of pure Sanitas upon various strains of Anthrax Spores, and found that all were destroyed in less than a quarter of an hour and some of them in half that time

In other investigations the disinfecting power of 'Sanitas Fluid' on pus phthisical sputum, diphtheritic membrane and purulent urine has been determined and a full account will be found in the paper referred to at foot *

The diphtheria organisms are especially susceptible to the action of Sanitas Fluid their destruction being rapidly ensured by a comparatively dilute solution

'Sanitas Fluid,' by virtue of its peroxide and aromatic constituents is a useful antiseptic in *all septic cases*, thus it finds useful employment as a mouth wash before and after operation for bladder irrigation, as a dressing for ulcers sinuses and fistulæ, in obstetric practice and in the treatment of oral sepsis

ORAL SEPSIS

In the Bradshaw *Lecture on Incipient Pulmonary Tuberculosis* delivered at the Royal College of Physicians November 5th 1912 Dr David B Lees emphasized the importance of securing careful disinfection of the mouth with equal parts of Sanitas Fluid and water four times daily after the milk and again 'after his meals he should always rinse his mouth with equal parts of 'Sanitas Fluid and water '

'Sanitas Fluid used night and morning has been strongly recommended for preventing oral sepsis (Pyorrhœa)

In INOPERABLE CANCER

"**SANITAS FLUID** often affords the greatest relief it cleanses the sloughing surface and thus greatly diminishes the amount of septic absorption, it alleviates the smarting pain, and *lastly it entirely destroys* the awful smell of the necrotic tissues

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* On the Disinfecting Power of "Sanitas Fluid" on Certain Pathogenic Microbes in Morbid Products by E Klein M D F R S and F W Andrewes M D F R C P D P H —*Medical Press & Circular* August 24th 1910

The "SANITAS" CO., Ltd.,

LIMEHOUSE, LONDON, E

Disinfectant Manufacturers, by Appointment, to H M THE KING

THE LANCET.

LONDON SATURDAY, JUNE 24 1916

The Declining Birth-rate

THE report of and the chief evidence taken by the National Birth rate Commission[1] have been published, and have already attracted considerable attention, the subject dealt with being one which has been forced upon public consideration by the wastage of valuable lives through war The body which has held the inquiry was reasonably fitted for its task It was not a Royal Commission, but was instituted, with official recognition, by the National Council of Public Morals, described on the title page of the report as a council "for the promotion of race regeneration—spiritual, moral, and physical" It comprised no prominent politician or lawyer, but the medical profession was well represented The findings of the Commission, and such recommendations and suggestions as it has made, may not throw any new light upon the subject inquired into, or foreshadow any completely effective method of dealing with a problem which war has rendered more important than it was before, but the value of the work done should lie largely in the evidence placed on record The extent of the decline in our national birth rate is not now in doubt, and the causes through which it is being brought about are becoming less a matter of conjecture Valuable summaries of the statistical, medical, religious, and economic aspects of the case have been made accessible in this report and we commend the study of the evidence itself to any who may believe that they can add suggestions to those formulated by the Commissioners These, numbering at the close of their labours 27 men and women, signed a report which arrives *inter alia* at the following findings of fact —

1 That the birth rate has declined to the extent of approximately one third within the last 35 years

2 That this decline is not to any important extent due to alterations in the marriage rate to a rise of the mean age at marriage or to other causes diminishing the proportion of married women of fertile age in the population

3 That this decline although general has not been uniformly distributed over all sections of the community

4 That on the whole the decline has been more marked in the more prosperous classes

5 That the greater incidence of infant mortality upon the less prosperous classes does not reduce their effective fertility to the level of that of the wealthier classes

They further consider that the following conclusions may be stated although based upon less substantial evidence than the first five —

6 That close limitation of fertility is widely practised among the middle and upper classes and there is good reason to think that in addition to other means of limitation the illegal induction of abortion frequently occurs amongst the industrial population

7 There is no reason to believe that the higher education of women (whatever its indirect results upon the birth rate may be) has any important effect in diminishing their physiological aptitude to bear children

Those who are able to study the evidence given before the Commission will no doubt supplement it by consideration of the annual report for 1914 of the Registrar General (see p 1271) For this report, which supplies the most recent statistics available in an authoritative form with regard to our birth rate, will often illustrate the more recent report of the National Birth rate Commission For example, the table in the report of the Registrar General, which deals with the proportion of marriages to marriageable persons, and the evidence of postponement of marriage by women, is introduced to prove that these are causes tending to reduce the birth rate, independently of the direct actions of married persons The causes which conduce to diminish the proportion of married persons in the kingdom, or to raise the age at which women marry, are not the concern of the Registrar General, but the facts involved are matters for consideration in dealing with the whole subject Later or fewer marriages and the voluntary restriction of families may, in some cases at any rate, proceed from similar motives affecting different individuals, and the ultimate cause is the point which has to be arrived at by those who desire to introduce remedies We need hardly say that there may be no one ultimate cause, but rather a combination of causes operating together In considering this question due weight must be given to the evidence of Dr J BROWNLEE and Dr A K. CHALMERS pointing to the occurrence of cyclical variations in the birth rate One point at any rate would appear to be established, that to whatever extent causes independent of the voluntary action of individuals, such as conditions of housing, may operate to diminish or to increase the fertility of parents, there is an appreciable and increasing fall in the number of births taking place through voluntary interference with what may be called "the course of nature This does not affect our own country only, as we are all aware and it was with regard to Germany, the enemy with whom we are now engaged in a life and death struggle, and to the variations in birth statistics in different parts of the German empire, that a witness Dr C V DRYSDALE, the secretary of the Malthusian League, made the following observations "There can be no doubt whatever that ignorance and recklessness at the present time are essential to high birth rates' Whatever view we may hold as to this we may be certain at all events that where the birth rate has *fallen* through the voluntary action of potential parents it will not be the increase either of *ignorance* or of recklessness that will raise it It will rather be the dissemination of the ambition to have children, as education explains the prudence of such a course, whether from a personal or from a national and patriotic point of view We may be sure also that a resourceful and methodical enemy has already weighed the question of repairing its losses Indeed quotations from the German press have been published in this country showing that the rewarding of parents of large families forms in Germany part of a strongly advocated programme of future organised racial development. Other methods, too, for encouraging reproduction have been spoken of, the possibility of which we can hardly credit even with an enemy known to be both practical and unscrupulous. Education, however, is likely to play its part in the task, and the education of the young to subordinate the convenience of the individual to the demands of the State has already supplied Germany with a reserve of strength and determination of great value to her in delaying her ultimate defeat. We may regard with horror the kind of man which German education has created in too great a quantity, without denying the effect of education on the young in moulding their future as citizens.

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[1] [illegible] London Chapman [illegible]

Not the least important thing to be considered when the Government of the day appoints a Royal Commission or a Committee, departmental or otherwise, to inquire into an admitted or supposed public evil, is the question of a remedy. The report of such a body should conclude by recommending legislation directly aimed at diminishing the mischief inquired into. In the case of the National Birth-rate Commission, however, it has hardly been possible to follow this course. The increase of the national birth-rate, so far as it is dependent upon the voluntary action of those who otherwise might become parents, is not a subject suited for direct legislation. Its fringe can be touched; particular dangers which diminish, or tend to diminish, the number of children born may be averted, it is true, and the number of those reared may be increased, but the matter as a whole will still be left practically where it was. For example, the sale of diachylon, stated by witnesses to be largely used in some localities for procuring abortion, may be rendered difficult. If it were stopped entirely, however, other methods by which abortion can be procured or attempted by evilly disposed persons would not be affected, and the spirit which induces married couples to avoid bringing children into the world would stand unaltered. The pain attendant upon bearing children may deter some women from becoming mothers, but the fourth and sixth findings of the Commission are probably correct—that is to say, the decline in the birth-rate to a large extent, at any rate, is the result of the deliberate action of those classes of society who would appear to be the least likely to suffer from having large families. These classes have followed, and in their turn have set, an example which is likely to be copied more and more widely, unless the sense of a demand for children to carry on the race, and a certain sobering of the nation by the horrors of war, should combine to produce a reaction. Prudential reasons are, no doubt, responsible for the limitation of many families, prudence in one direction being counterbalanced by irresponsibility in another. Young couples, of an age when the pursuit of personal pleasure seems too important to be foregone, think it prudent to be childless and so free to enjoy themselves. They may be preparing for themselves a joyless middle age, and an old age when recollection of the pleasures of their youth will hardly console their solitude. The remedy would seem to lie rather in causing them to take a different view of life in general than in trying to induce them by direct persuasion to undertake the responsibility of bringing children into the world. When the war ends we may see a more sober and earnest nation reviewing the situation in which it finds itself; for ourselves, we believe that the young men and women who have taken part in and witnessed the great struggle will become the parents of a generation not so selfishly frivolous as that into which they themselves were born.

Twenty-four of the signatories of the main report, believing that more than it contains would be expected of them, have taken into consideration the two following questions, and have submitted recommendations in connexion with them: 1. Is the present decline of our national birth-rate regrettable? 2. If it is regrettable, is it preventable, and, if so, how? They have done this without dogmatising and have perhaps made their views public with what will be to some a disappointing lack of emphasis and originality. The whole subject of the Commission's inquiry, however, is one very definitely adapted for the consideration of our medical readers, and we have no doubt that after reading the evidence given in the light of their own experience, many of them will be able to make valuable additions to the Commissioners' observations. It will be observed that Mr. F. E. FREMANTLE, a valuable member of the Commission, has not signed its report. This does not imply either that he did not take part in its sittings or that he differs from its conclusions. He is, however, now serving in Egypt, and being absent from England at the time when the Commission's findings were finally discussed and formulated, did not, as we understand, consider himself justified in signing.

Gunshot Injuries of the Jaws

IN another column we publish an account of an important gathering recently held in London under the auspices of the British Dental Association to discuss the treatment of gunshot injuries of the jaw. The presence of several French and Belgian dental surgeons added considerable interest to the proceedings, because it enabled the discussion of the various methods which are being adopted to deal with these injuries and their resulting deformities to be comprehensive of many schools of thought and to be critical and free. The President of the Association (Mr. W. H. DOLAMORE) closed his address by insisting upon the importance of the best treatment being provided for gunshot wounds of the jaw. "A young soldier," he said, "good enough looking to his own ideas, for a man does not readily admit the reverse, is struck in the face by a fragment of shell or by a shrapnel bullet. His jaw is splintered, his face is torn. He can scarcely breathe, or swallow, or speak; and if he be conscious, or when he recovers consciousness, the idea crosses his mind that he is permanently deformed, and even perhaps hideous Can surgery offer a greater comfort to any man than to be able to tell such an one that it can ease his pain, restore his face, remodel his jaw? Yet cold comfort would it be to him if he knew of others to whom these words had also been whispered, but the promise had not been kept And that soldier may, in these days of national service, be our own kith and kin" These words put the situation tersely and eloquently

That very much may be done to cure, or at any rate alleviate, the terrible injuries resulting from gunshot wounds of the jaws is proved from a perusal of the many papers that have recently appeared on the subject, and it is also certain that the happiest results are those obtained by a close coöperation between surgeon and dental surgeon Is all being done in this country that should be done for such injuries? We do not think it is In Germany we know that as early as August, 1914, a hospital of 225 beds was opened at Düsseldorf, and that by April of last year similar institutions had been opened in other parts of the German Empire The French early realised the importance of bringing these injuries under the care of those capable of treating them, and they rapidly organised special hospitals In England no attempt was made to concentrate such cases until July of last year, when the Eastern Command opened a special hospital at Croydon, and now nearly two years after the outbreak of the war fresh centres are being formed in connexion with a few of the military hospitals If these special hospitals are to give the soldiers the best treatment their surgical staffs should be chosen from those with a special aptitude for plastic operations, and the dental surgeons from those who have had experience of injured jaws in our great civilian hospitals Gunshot injuries of the jaws require the most skilful treatment, and the treatment of these cases cannot be handed over to any accessible dental surgeon without a chance of disastrous results This is now, of course, widely recognised, but we have only lately come to look at the facts in their right proportion

Lack of appreciation of the importance of these injuries has meant that in the first place there are numbers of our wounded soldiers who will pass the remainder of their days with permanent facial deformities which might have been remedied if the best special treatment had been available As a matter of fact such detailed forethought would have been completely impossible, but no doubt many soldiers have had to be invalided out of the army for wounds of this character who could have been restored we now know, as 'efficients Again, neglect of treatment has of necessity added considerably to the period of stay in hospital and placed a greater incubus on the Pension Fund To those unacquainted with the work that can be done to gunshot injuries of the jaw we would recommend a valuable paper by Mr Dol[illegible] in the June 1st issue of the *British Dental Journal*, in which he describes and illustrates the methods used in the hospitals of Germany, and to a paper by Mr J F Colyer in the April issue of the *Royal Army Medical Corps Journal*

Annotations.

"Ne quid nimis"

AUXILIARY ROYAL ARMY MEDICAL CORPS FUNDS

THE movement inaugurated on June 1st at the Royal Army Medical College to consider the desirability of establishing a benevolent fund for the Services auxiliary to the Royal Army Medical Corps is now taking definite shape A meeting will be held at 2 45 P M at the Royal Army Medical College on Monday next, June 26th, when a scheme formulated by the provisional committee will be discussed The three auxiliary branches of the Royal Army Medical Corps—namely, the Special Reserve, the Territorials, and those holding Temporary appointments in the R A M C—will be included in the administration of the funds, under two headings (*a*) an officers' benevolent branch, and (*b*) a relief branch, the establishment of a loan fund to help medical officers of the auxiliary forces who find themselves in temporary difficulty on returning to civil practice is also under consideration In another column the proposals under the scheme are more fully set out

RECOVERY FROM BLINDNESS DUE TO CEREBRO-SPINAL MENINGITIS

AT a meeting of the Societe Médicale des Hôpitaux of Paris, M Arnold Netter showed the possibility of recovery from blindness due to cerebro spinal meningitis, even when accompanied by ocular lesions He related the case of a child, aged 21 months, who was admitted into hospital under his care on Dec 20th She had been ill since Nov 24th, and various diagnoses had been made On admission she was thin and cachectic Neither rigidity of the neck nor Kernig's sign was present The abdomen was retracted and the tache cerebrale was obtained Lumbar puncture yielded a purulent fluid containing many meningococci, and 30 c c of antimeningococcic serum were injected The puncture and injection were repeated on the two following days The liquid yielded by the third puncture was clear and sterile Recovery appeared to take place, but on Jan 9th the child was found to be blind Examination of the eyes, including the fundi, showed nothing abnormal, but the amaurosis was absolute, and the pupils did not react to light Though there were no symptoms of accumulation of fluid in the ventricles lumbar puncture was performed on Jan 15th The cerebro spinal fluid rushed out in a jet, indicating high tension, but it was limpid, its chemical composition was normal, and only very few cells (mononuclears and lymphocytes) were present Puncture was not followed by any return of vision On Jan 22nd 15 c.c of cerebro spinal fluid were withdrawn and on the following day the lumbar region was swollen, which was manifestly due to infiltration of the connective tissue with cerebro spinal fluid On the 23rd vision began to return and by the 28th objects could be recognised But vision again deteriorated On Feb 3rd puncture was again performed On the next day vision improved again and on the following days it continued to do so and was definitely regained M Rochon Duvigneaud, the ophthalmologist who examined the eyes, attributed the blindness to pressure on the optic tracts by hydrocephalus The recovery of vision after the punctures bore out this view In another case, in an infant aged 13 months, M Netter observed a similar return of vision. He referred to a third case reported to the Académie de Médecine by MM Triboulet, Rolland, and Fenestre A child, aged 2 years, had cerebro spinal meningitis Notwithstanding repeated injections of serum into the spinal canal and cerebral ventricles, the head became enormously increased in size and there were convergent strabismus and dilated pupils The child appeared to be blind and an idiot Examination of the eyes by M Dupuy Dutemps showed well marked double optic atrophy However, complete recovery took place

IN ARTICULO MORTIS

AN idea prevalent among the lay public is that medical men when they fall ill deserve pity, seeing that they know the ins and outs of their disease, can foresee its course, and estimate its pains and penalties The popular notion was embodied with startling clearness and charm of style by the late Ernest Dowson in the fourth number of the *Savoy*, published 20 years ago (August, 1896) In "The Dying of Francis Donne" Dowson imagines his hero, a rising young surgeon —noted among other things for the brilliancy of his lectures, which detractors pronounce "mere literature,"—to be suddenly confronted with the knowledge that he is doomed to die shortly of a terrible disease—presumably cancer (A similar situation, by the bye, is imagined by Paul Bourget in his last novel) Donne looks at himself in his mirror and reflects "I, Francis Donne, am going to die," and presently, "I am going to die soon in a few months, in six perhaps, certainly in a year" He notices lines in his face and a certain greyness He is only 35, but has for some time been suffering from "a dull immutable pain," which has now declared its nature He tries to make believe—cheats himself almost into the notion that he is suffering from nerves and that a long holiday will set him right But he becomes the victim of a morbid self consciousness It seems that his acquaintances, pupils, and colleagues have adopted "an attitude of evasion, a hypocritical air of ignoring a fact that was obvious and unpleasant" He comes to the conclusion that it will be best to die among strangers Like a dying animal, he shuns the world he has known He drops suddenly out and goes to a remote village in Brittany, on the Atlantic coast

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> But if the days were not without their pleasantness the nights were always horrible—a torture of the body and an agony of the spirit Sleep was far away, and the brain, which had been lulled till the evening would awake would grow electric with life and take strange and abominable flights into the darkness of the pit, into the black night of the unknowable and the unknown

At last, from a longer and more tortured night than all the others, he awakes to full consciousness

> He opened his eyes and seemed to discern a few blurred figures against the darkness of the closed shutters through which one broad ray filtered in, but he could not distinguish their faces, and he closed his eyes once more An immense and ineffable tiredness had come over him, but the pain —oh, miracle! had ceased And it suddenly flashed over him that this—this was death, this was the thing against which he had cried and revolted, the horror from which he would have escaped, this utter luxury of physical exhaustion, this calm, this release

He would have smiled, but could not His life flashes before him in review—the death of his mother from an ill which later he could have cured, the friend who had shot himself without cause, the girl whom he had loved, but who did not love him "All that was distorted in life was adjusted and justified in the light of his sudden knowledge *Beati Mortui* "

> And then the great tiredness swept over him once more, and a fainter consciousness, in which he could yet just dimly hear, as in a dream, the sound of Latin prayers

It is doubtful whether any but a man of letters, a poet, as Ernest Dowson himself was, would die thus

PARALYSIS FROM FRIGHT

IN the *Journal of the Canadian Medical Association* Lieutenant Colonel R D Rudolf has recorded a case of hemiplegia produced in a previously healthy lad by sudden fright, which, in addition to its medical interest, is not without a comic element A private, aged 20 years, was admitted into the Canadian General Hospital, France, with the diagnosis of "boils and facial paralysis" The family history was good and he had never suffered from any illness until he went to India four years ago as a bugler He had been there eight weeks, when on the evening of a very hot day he went on duty for the first time He was sentry on the deadhouse, and his orders were to kick at the door every 15 minutes to scare away the rats He was very nervous, but at 9 o'clock kicked at the door and nothing happened At 9 15 he did so again, when to his horror a voice cried from within, "W'at the 'ell are you kicking about?" In terror he fled to the guard room, but fell before he reached that haven It appears that before he went on duty a guard had placed a drunken soldier in the mortuary to get sober and omitted to inform the new sentry The lad was picked up unconscious and taken to hospital He remained unconscious for six days, and when he recovered he could not speak, the left side of the body was paralysed, he could not shut the left eye, and the left side of the body was anæsthetic He remained in this condition for about six months, the last three of which were spent in England Then he gradually improved and re enlisted On examination he was a well grown, healthy looking lad He could not close the left eye but otherwise facial paralysis was not manifest until he smiled or tried to show his upper teeth He could wrinkle the left brow almost as much as the right The muscles of the left limbs were well developed but distinctly weak The grip of the left hand was poor and he could not stand on the toes of the left foot The left knee jerk was slightly greater than the right The plantar reflex was absent on the left side The tongue was not deflected to either side The fields of vision and the faucial reflex were normal Sensibility to touch was diminished and to heat, cold, and pain absent all over the left side, including the tongue left nostril and genitals The patient stated that the leg first recovered from the paralysis, then the arm, and finally the face Lieutenant Colonel Rudolf regards the condition as of the same nature as hysteria, and compares it to the symptoms produced by shell shock, such as loss of memory, blindness, deafness, and deaf mutism Dr Crile, of Cleveland, has shown that severe fright will produce in animals changes in the cerebral cells Possibly the same may occur in man

THE MEDICAL INSURANCE AGENCY

A MEETING of the committee of the Medical Insurance Agency, at which Dr G E Haslip presided, was held at the offices of the British Medical Association on June 15th Allusion was made to the loss of a valuable counsellor in the person of Sir Frederic Hewitt, whose death had made a gap difficult to fill, and a letter of sympathy was sent to Lady Hewitt The audited financial statement for the year 1915 and the chairman's review of the year's work were then submitted and approved There had been an encouraging expansion of business under each head, the commissions on motor car insurances having been specially good A serious problem with which many medical men liable to military service and not already insured had been faced was solved for them by the success of the agency in inducing an office of high standing to accept assurances at more reasonable rates Out of a total income from commissions of £1950 a sum of £838 had been returned to members insuring through the agency, yet still leaving £798 available to divide in grants among various medical benevolent funds £630 were thus distributed, double the sum of the preceding year The medical profession as a whole may well take fresh note of this highly gratifying result Insurance through the agency ensures not merely a rebate in reduction of premiums to be paid, but gives the member a share in conferring substantial benefit on the benevolent funds of his profession The chairman reported that up to the end of 1915 these rebates had amounted to £4530, and the sums distributed for charitable purposes to a goodly total of £1700 He proposed the immediate distribution of a further £400 out of surplus earnings of the current year, and the committee decided to allot grants as follows Royal Medical Benevolent Fund £150, Royal Medical Benevolent Fund Guild and Epsom College Benevolent Fund, to each £100, R A M C Officers' Benevolent Fund and THE LANCET Special Fund to each £25 The energy and business ability of the chairman and the staff of the agency continue to bear fruit The secretary of the Medical Insurance Agency is Mr Guy Elliston, 429, Strand, W C

THE CONTROL OF FOOT-AND-MOUTH DISEASE

COMMENTING on the report of the Diseases of Animals Act,[1] a correspondent calls attention to the evidence of good work done in checking the spread of foot and mouth disease at a time when exceptional difficulties stood in the way The disease is communicable to human beings through the milk, which is either contaminated by the virus from the vesicles or itself directly contagious in the febrile stage of the disease The fact that there were no cases of spread to children or adults through the milk shows the value of the preventive measures employed Some adverse criticism was levelled against the policy of slaughtering all infected animals at a time when the country's food supply was restricted but we think that the authorities acted wisely in so doing as it is known that animals may recover from an attack and yet remain for some time carriers of the contagion The practice of calling in neighbours in consultation when animals are ailing is condemned, as infection may easily be carried on clothes and boots to fresh centres

THE SURGICAL TREATMENT OF BRONCHIECTASIS

REMARKING that the surgical treatment of intrathoracic disease has been much facilitated during the last 10 or 12 years by the adoption of Sauerbruch and Brauer's apparatus for operating under raised or reduced atmospheric pressure, Dr J H. Zaaijer, of Leyden, goes on to describe[1] his own experience with bronchiectasis His own apparatus is very simple, and is arranged so as to make the patient breathe air a little above the atmospheric pressure, thus preventing collapse of the lung should the pleural cavity be opened by accident or otherwise during the course of the operation His experience extends to four patients with bronchiectasis and offensive sputum The first of these, a woman, was anæsthetised with chloroform, ether, and oxygen, the bronchiectasis was confined to the left lower lobe, and Dr Zaaijer removed 13 or 14 cm of the sixth, seventh, eighth, ninth, and tenth ribs subperiosteally, the resection starting medial to the costal angle behind, thus allowing the lower part of the chest wall to fall in The wound was sewn up and dressed, with the addition of a large pad of cotton wool to produce collapse of the underlying lung tissue The patient made a good recovery, and 11 months after the operation was well content with the improvement in her condition The sputum averaged one ounce a day, having been four times as much before the operation, and was inoffensive, while the clubbing of her finger tips had disappeared The base of the left lung was collapsed and dull on percussion The second patient, a sturdy man aged 21, had suffered much from cough all his life and had had offensive sputum for four years, with drumstick finger tips, at 20 he had pneumonia and pleurisy The sputum was extremely offensive, varying in amount from 5 to 12 ounces a day, and settled into three layers on standing General bronchitis was present, and the left lower lobe was dull on percussion, while its lower margin behind was fixed As in the previous case, medicinal treatment had been long tried without success, including intratracheal injections of gomenol (the essential oil from the leaves of *Melaleuca viridiflora*, nearly allied to oil of cajuput chemically) The patient was anæsthetised with chloroform, and 17 cm were excised subperiosteally from the seventh eighth, and ninth ribs, 13 cm from the tenth on the left side, the resections beginning medial to the costal angles, the pleura was not injured A large pad of cotton wool was applied to drive the chest wall inwards at the area of operation The patient made a good recovery, the sputum sank to an ounce or less a day and became inoffensive Four months later the patient caught a chill he returned to hospital bringing up some six ounces of offensive sputum daily Medical treatment gave no relief and a month later the site of the previous operation was opened up again Subperiosteal resection of 21 cm. of the sixth rib was performed, the previously excised ribs had formed again as thick bony masses, and these were removed *en masse* together with their intercostal the optic tracts by hydrocephalus The recovery of vision after the punctures bore out this view In another case, in an infant aged 13 months, M Netter observed a similar return of vision He referred to a third case reported to the Académie de Médecine by MM Triboulet, Rolland, and Fenestre A child, aged 2 years, had cerebro spinal meningitis Notwithstanding repeated injections of serum into the spinal canal and cerebral ventricles, the head became enormously increased in size and there were convergent strabismus and dilated pupils The child appeared to be blind and an idiot Examination of the eyes by M Dupuy Dutemps showed well marked double optic atrophy However, complete recovery took place

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[1] THE LANCET, [illegible] p. 1[illegible]

[1] Nederl. Tijdschr. v. Geneesk., Amsterdam, 1916, i, [illegible]

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PARALYSIS FROM FRIGHT

IN the *Journal of the Canadian Medical Association* Lieutenant Colonel R D Rudolf has recorded a case of hemiplegia produced in a previously healthy lad by sudden fright, which, in addition to its medical interest, is not without a comic element A private, aged 20 years, was admitted into the Canadian General Hospital, France, with the diagnosis of ' boils and facial paralysis " The family history was good and he had never suffered from any illness until he went to India four years ago as a bugler He had been there eight weeks, when on the evening of a very hot day he went on duty for the first time He was sentry on the deadhouse, and his orders were to kick at the door every 15 minutes to scare away the rats He was very nervous, but at 9 o'clock kicked at the door and nothing happened At 9 15 he did so again, when to his horror a voice cried from within, " W'at the 'ell are you kicking about?' In terror he fled to the guard room, but fell before he reached that haven It appears that before he went on duty a guard had placed a drunken soldier in the mortuary to get sober and omitted to inform the new sentry The lad was picked up unconscious and taken to hospital He remained unconscious for six days, and when he recovered he could not speak, the left side of the body was paralysed, he could not shut the left eye, and the left side of the body was anæsthetic He remained in this condition for about six months, the last three of which were spent in England Then he gradually improved and re enlisted On examination he was a well grown, healthy looking lad He could not close the left eye but otherwise facial paralysis was not manifest until he smiled or tried to show his upper teeth He could wrinkle the left brow almost as much as the right The muscles of the left limbs were well developed but distinctly weak The grip of the left hand was poor and he could not stand on the toes of the left foot The left knee jerk was slightly greater than the right The plantar reflex was absent on the left side The tongue was not deflected to either side The fields of vision and the faucial reflex were normal Sensibility to touch was diminished and to heat cold, and pain absent all over the left side, including the tongue, left nostril and genitals The patient stated that the leg first recovered from the paralysis, then the arm, and finally the face Lieutenant Colonel Rudolf regards the condition as of the same nature as hysteria, and compares it to the symptoms produced by shell shock, such as loss of memory, blindness, deafness, and deaf mutism Dr Crile, of Cleveland, has shown that severe fright will produce in animals changes in the cerebral cells Possibly the same may occur in man

THE MEDICAL INSURANCE AGENCY

A MEETING of the committee of the Medical Insurance Agency, at which Dr G E Haslip presided, was held at the offices of the British Medical Association on June 15th Allusion was made to the loss of a valuable counsellor in the person of Sir Frederic Hewitt, whose death had made a gap difficult to fill, and a letter of sympathy was sent to Lady Hewitt The audited financial statement for the year 1915 and the chairman's review of the year's work were then submitted and approved There had been an encouraging expansion of business under each head, the commissions on motor car insurances having been specially good A serious problem with which many medical men liable to military service and not already insured had been faced was solved for them by the success of the agency in inducing an office of high standing to accept assurances at more reasonable rates Out of a total income from commissions of £1950 a sum of £838 had been returned to members insuring through the agency, yet still leaving £798 available to divide in grants among various medical benevolent funds £630 were thus distributed, double the sum of the preceding year The medical profession as a whole may well take fresh note of this highly gratifying result Insurance through the agency ensures not merely a rebate in reduction of premiums to be paid, but gives the member a share in conferring substantial benefit on the benevolent funds of his profession The chairman reported that up to the end of 1915 these rebates had amounted to £4530, and the sums distributed for charitable purposes to a goodly total of £1700 He proposed the immediate distribution of a further £400 out of surplus earnings of the current year, and the committee decided to allot grants as follows Royal Medical Benevolent Fund, £150, Royal Medical Benevolent Fund Guild and Epsom College Benevolent Fund, to each £100, R A M C Officers' Benevolent Fund and THE LANCET Special Fund, to each £25 The energy and business ability of the chairman and the staff of the agency continue to bear fruit The secretary of the Medical Insurance Agency is Mr Guy Elliston, 429, Strand, W C

THE CONTROL OF FOOT-AND-MOUTH DISEASE

COMMENTING on the report of the Diseases of Animals Act,[1] a correspondent calls attention to the evidence of good work done in checking the spread of foot and mouth disease at a time when exceptional difficulties stood in the way The disease is communicable to human beings through the milk, which is either contaminated by the virus from the vesicles, or itself directly contagious in the febrile stage of the disease The fact that there were no cases of spread to children or adults through the milk shows the value of the preventive measures employed Some adverse criticism was levelled against the policy of slaughtering all infected animals at a time when the country's food supply was restricted but we think that the authorities acted wisely in so doing as it is known that animals may recover from an attack and yet remain for some time carriers of the contagion The practice of calling in neighbours in consultation when animals are ailing is condemned, as infection may easily be carried on clothes and boots to fresh centres

THE SURGICAL TREATMENT OF BRONCHIECTASIS

REMARKING that the surgical treatment of intrathoracic disease has been much facilitated during the last 10 or 12 years by the adoption of Sauerbruch and Brauer's apparatus for operating under raised or reduced atmospheric pressure, Dr J H Zaaijer, of Leyden, goes on to describe[1] his own experience with bronchiectasis His own apparatus is very simple, and is arranged so as to make the patient breathe air a little above the atmospheric pressure, thus preventing collapse of the lung should the pleural cavity be opened by accident or otherwise during the course of the operation His experience extends to four patients with bronchiectasis and offensive sputum The first of these, a woman, was anæsthetised with chloroform, ether, and oxygen, the bronchiectasis was confined to the left lower lobe, and Dr Zaaijer removed 13 or 14 cm of the sixth, seventh, eighth, ninth, and tenth ribs subperiosteally, the resection starting medial to the costal angle behind, thus allowing the lower part of the chest wall to fall in The wound was sewn up and dressed, with the addition of a large pad of cotton wool to produce collapse of the underlying lung tissue The patient made a good recovery, and 11 months after the operation was well content with the improvement in her condition The sputum averaged one ounce a day, having been four times as much before the operation, and was inoffensive, while the clubbing of her finger tips had disappeared The base of the left lung was collapsed and dull on percussion The second patient, a sturdy man aged 21, had suffered much from cough all his life and had had offensive sputum for four years, with drumstick finger tips, at 20 he had pneumonia and pleurisy The sputum was extremely offensive, varying in amount from 5 to 12 ounces a day, and settled into three layers on standing General bronchitis was present, and the left lower lobe was dull on percussion, while its lower margin behind was fixed As in the previous case, medicinal treatment had been long tried without success, including intratracheal injections of gomenol (the essential oil from the leaves of *Melaleuca viridiflora*, nearly allied to oil of cajuput chemically) The patient was anæsthetised with chloroform, and 17 cm were excised subperiosteally from the seventh eighth, and ninth ribs, 13 cm from the tenth on the left side, the resections beginning medial to the costal angles, the pleura was not injured A large pad of cotton wool was applied to drive the chest wall inwards at the area of operation The patient made a good recovery, the sputum sank to an ounce or less a day and became inoffensive Four months later the patient caught a chill, he returned to hospital bringing up some six ounces of offensive sputum daily Medical treatment gave no relief, and a month later the site of the previous operation was opened up again Subperiosteal resection of 21 cm of the sixth rib was performed, the previously excised ribs had formed again as thick bony masses, and these were removed *en masse* together with their intercostal muscles, leaving the thickened pleura intact In addition, 3 cm. of the periosteum of the sixth rib were dissected off with difficulty The wound was dressed with a large compress firmly applied as before A good recovery was made, four months after the second operation the patient was well, almost free from cough and expectoration, though the drumstick fingers remained unaltered, the use of the left arm was unimpaired, the upper lobe of the left lung seemed normal while the lower lobe was collapsed Dr Zaaijer's third patient was a weakly woman aged 35, who had suffered from bronchiectasis from the age of 4 The right lung was most involved, under local anæsthesia with novocaine from 11 to 20 cm of the eleventh, seventh, eighth, ninth, and tenth ribs were removed subperiosteally, in that order The pleura was not injured, and the wound was dressed with a large pressure pad tightly bandaged on The wound healed satisfactorily, but 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[1] THE LANCET, [illegible]

[1] Ned[illegible] Geneesk, Amsterdam 191[illegible] i 651

“SHUTTLE-KISSING” AGAIN

NEARLY four years ago a Committee of the Home Office and the Local Government Board reported on the practice of "kissing the shuttle" for the threading of the loom in weaving sheds without recommending legislation or regulations on the subject, but relying on the publicity given so to stimulate invention and popular feeling that no drastic administrative action would be found necessary after a few years A paper read by Dr A Middleton Hewat, tuberculosis officer for Preston, before the North Western Branch of the Society of Medical Officers of Health and printed in the May number of *Public Health*, shows that this insanitary practice still persists and is a source of danger to the cotton operatives Dr Hewat's figures show a marked excess of tuberculosis notifications in female cotton operatives over those in adult females, excluding cotton operatives—4 3 per 1000 in the former, 2 5 per 1000 in the latter, during 1915, and the difference was even more marked in 1914 Although the available figures do not as yet confirm it he believes that pulmonary tuberculosis is also more prevalent among the male workers also It is naturally difficult to get direct evidence of infection from the use of looms soiled with tuberculous sputum, but Dr Hewat is able to adduce a suggestive series of cases in which operatives with open tuberculosis remained for years at their work sharing the same loom with a partner Other conditions in the sheds conduce to tuberculous infection as the irritating dust tends to set up a bronchial and pulmonary catarrh which forms a suitable nidus for the tubercle bacillus Pneumoconiosis is admittedly frequent among the operatives, and striking evidence of the amount of dust which must be inhaled in shuttle kissing is afforded by the quantity found in the filter of a mechanical kisser after a few days use It is evident from Dr Hewat's observations that the practice has not disappeared in the way which had been hoped for and that administrative action may be necessary to enforce the installation of mechanical means for the threading of the looms

ANNUAL REPORT FOR 1914 OF THE REGISTRAR-GENERAL[1]

BY JOHN F W TATHAM, M A, M D DUB
F R C P LOND & IREL D P H, &C
LATE SUPERINTENDENT OF STATISTICS GENERAL REGISTER OFFICE.

I

THE salient points in this report were given in a leading article in THE LANCET of April 29th but the importance of the statistics of population warrants a more elaborate notice of this great official document on the subject The public has been impelled by the force of the dread circumstances in which we live to respect the arguments of figures and medical men day by day make more frequent appeal to these arguments Several new statistical tables, mostly very elaborate based on the Census of 1911, have appeared in the reports since that year and must have entailed much labour Relating to a long series of years these tables are essentially summaries, and their reappearance in this report has been deemed unnecessary For reference these tables will be found practically indispensable Conformably with former practice prominence will be given here to matters specially interesting from a preventive point of view, and in dealing with obscure points advantage will be taken of the summaries referred to

Birth-rates and Fertility

The crude birth rate or ratio of births to total population is the ordinary form of statement where the object is to ascertain the net result of various factors concerned in reproduction It expresses the sum of influences governing the rate at which a community is reproducing itself, and therefore furnishes in association with the death rate, a ready means of estimating the natural increase of a population For the measurement of human fertility the crude birth rate is the only form of statement available, but as the fertility of mothers is only one of several factors determining the rate of reproduction it cannot be relied on as a perfect test of the fertility of a community—i.e *of its rate in proportion to opportunity of reproduction*, The crude birth rate varies with the proportion of females married and unmarried.

A table in this report shows the changes in the proportion and in the age constitution of the married females living at the dates of the last five censuses The first change consists in the larger proportion of women of child bearing age in the entire population, the second in the proportion of these who are married, the third in the increasing average age of married women under 45 years old The first of these changes makes for increase of the rate of birth the last two for its decrease Unfortunately our birth registers contain no record of the age of parents, consequently no data being available concerning fertility at different ages it is impossible to determine the effect on the birth rate of increase in the age of potential mothers The effect of decrease in the fertility of English wives—due partly to their greater average age but largely no doubt to deliberate avoidance of pregnancy—is masked to some extent by the net result of other changes in the composition of the population

The most noticeable features in this table are (1) the fall in the proportion of marriages to marriageable persons and (2) the evidence of postponement of marriage by women The proportion of women at fertile ages who are married was higher at the last census than in 1911 but the proportion of these had fallen at three out of the four stages into which the period of human fertility is divided The latter change results from the postponement of marriage When we reflect on the extent to which fertility diminishes with advancing age it is evident that this change of itself must have appreciably reduced the birth rate The highest rates in 1914 occurred in Wales and the next highest in the North of England while the rates in the South were by far the lowest These variations depend upon real differences of fertility for when allowance is made for variations in the proportion of women and of married women of fertile ages they are still apparent

In the year under notice the rate of *illegitimate fertility* expressed as it ought to be in proportion to the unmarried and widowed female population aged from 15 to 45 years was 7 7 per 1000 Thus computed, the fall in illegitimacy since 1876–80 was equal to 46 5 per cent, whilst it did not exceed 10 5 per cent when the illegitimate were compared with the total births Stated in relation to unmarried women of conceptive ages, illegitimate births were most frequent in Wales and least so in the South of England.

Mortality in Infancy and Childhood

In times gone by the progress of preventive medicine has been materially hindered by the lack of concerted action between the State departments charged with the oversight of public health administration For many years subsequent to the establishment of the General Register Office in 1837 no attempt was made to coördinate the work of its medical department with that of the Local Government Board the two departments having acted independently even in statistical affairs obviously of mutual concern. Fortunately all this is now changed, henceforward the principle of collaboration will be observed between these authorities The Registrar General has expressed his desire to reach agreement with the Local Government Board for the establishment of an identical policy in these matters, and incidentally has exposed the absurdity of duplicating statistics for the same areas necessarily in discord with each other Nor are the above the only authorities whose good offices in this direction may be hoped for The action of the Board of Education and of the Home Office in providing for the instruction of the people and for the regulation of factory labour may assuredly be included All these things are of happy augury for the future Coördination in the administrative details of public health and elementary education has always been contended for in THE LANCET and it is gratifying to learn that such representations are at length receiving official attention

Among former advocates of departmental coöperation the name of Sir William Power will be remembered for his efforts to improve the infant mortality returns required by the central authority from medical officers of health In the year 1905 for the first time the official report gave the number and causes of the deaths occurring locally in each of the first four weeks and in each of the 11 succeeding months after birth Following similar lines, Dr Arthur Newsholme has substantially advanced our knowledge of the subject in an elaborate series of studies on mortality in infancy and childhood. Previously the question of infant mortality being under discussion, the rate was specified without distinction of sex, cause or locality In this report there are tables showing for each geographical division of England and Wales the relative mortality of each sex at ages under one month and in successive trimesters of the first year From these it appears that whilst the death rate of boys under one year amounted to 116 per 1000 it did not exceed 93 among girls Moreover at each division of the first year male mortality was higher than female but this was exceptionally true in the first four weeks after birth

In the present and in recent previous reports the comparison of mortality has been extended to children up to school age—i.e. to the end of the period of exclusively home influence In the report for 1914 the mortality in the second year of life is set forth in a table and another gives the mortality between the ages of two and five years whilst a further table shows the survivors per 10 000 births in each geographical area The range of variation in the second year of life is much greater than in the first It extends from 11 72 in the rural districts of the South to 55 72 in the county boroughs of the North the chances of survival during the second year of life in the latter being not much greater than those during the first year of life in the former In each class of area mortality increases without exception from south to north and from rural areas to large towns in all parts of England

From the cumulative results of mortality shown in the report it appears that of the children born in the northern county boroughs 21 per cent may be expected to die before completing their fifth year while in the rural districts of the south the expected proportion is only 9 per cent or less than half of the other Judging by the experience of the last four years there is no class of area in the south outside London muscles, leaving the thickened pleura intact In addition, 3 cm. of the periosteum of the sixth rib were dissected off with difficulty The wound was dressed with a large compress firmly applied as before A good recovery was made, four months after the second operation the patient was well, almost free from cough and expectoration, though the drumstick fingers remained unaltered, the use of the left arm was unimpaired, the upper lobe of the left lung seemed normal while the lower lobe was collapsed Dr Zaaijer s third patient was a weakly woman aged 35, who had suffered from 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In times gone by the progress of preventive medicine has been materially hindered by the lack of concerted action between the State departments charged with the oversight of public health administration For many years subsequent to the establishment of the General Register Office in 1837 no attempt was made to coördinate the work of its medical department with that of the Local Government Board, the two departments having acted independently even in statistical affairs obviously of mutual concern. Fortunately all this is now changed, henceforward the principle of collaboration will be observed between these authorities The Registrar General has expressed his desire to reach agreement with the Local Government Board for the establishment of an identical policy in these matters, and incidentally has exposed the absurdity of duplicating statistics for the same areas necessarily in discord with each other Nor are the above the only authorities whose good offices in this direction may be hoped for The action of the Board of Education and of the Home Office in providing for the instruction of the people and for the regulation of factory labour may assuredly be included All these things are of happy augury for the future Coördination in the administrative details of public health and elementary education has always been contended for in THE LANCET and it is gratifying to learn that such representations are at length receiving official attention

Among former advocates of departmental coöperation the name of Sir William Power will be remembered for his efforts to improve the infant mortality returns required by the central authority from medical officers of health In the year 1905 for the first time the official report gave the number and causes of the deaths occurring locally in each of the first four weeks and in each of the 11 succeeding months after birth. Following similar lines, Dr Arthur Newsholme has substantially advanced our knowledge of the subject in an elaborate series of studies on mortality in infancy and childhood Previously the question of infant mortality being under discussion, the rate was specified without distinction of sex, cause, or locality In this report there are tables showing for each geographical division of England and Wales the relative mortality of each sex at ages under one month and in successive trimesters of the first year From these it appears that whilst the death rate of boys under one year amounted to 116 per 1000 it did not exceed 93 among girls Moreover at each division of the first year male mortality was higher than female but this was exceptionally true in the first four weeks after birth

In the present and in recent previous reports the comparison of mortality has been extended to children up to school age—i e to the end of the period of exclusively home influence In the report for 1914 the mortality in the second year of life is set forth in a table and another gives the mortality between the ages of two and five years, whilst a further table shows the survivors per 10 000 births in each geographical area. The range of variation in the second year of life is much greater than in the first. It extends from 11 72 in the rural districts of the South to 55 72 in the county boroughs of the North, the chances of survival during the second year of life in the latter being not much greater than those during the first year of life in the former In each class of area mortality increases without exception from south to north and from rural areas to large towns in all parts of England

From the cumulative results of mortality shown in the report it appears that of the children born in the northern county boroughs 21 per cent may be expected to die before completing their fifth year while in the rural districts of the south the expected proportion is only 9 per cent or less than half of the other Judging by the experience of the last four years there is no class of area in the south outside London, which does not rear a larger proportion of its children than do even the rural districts of the north

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[1] [illegible]

Effective Fertility

In the report for 1913 there appears an interesting table (not repeated in the present) in which comparison is carried a stage further by stating the combined effect of the fertility and early mortality of each population, in other words, by showing the extent to which it produces and rears children The result may be regarded as its "effective fertility," and gives some indication of the degree in which success in preservation of young lives is likely to compensate for failure in their production

The greatest effect of successful life preservation in compensating for its non production is naturally shown by comparison of the county boroughs of the North of England with the rural districts of the South And it is noteworthy that while the birth rate of the former was 25 9 against 19 4 in the latter, this difference would be reduced at age 5 to that between 20 7 and 17 6, the survivors per 1000 living in each case The advantage in *regard to birth-rate* held by the large towns in 1913 was still maintained on the attainment of the fifth year The advantage in *regard to fertility*, on the other hand, was held by the rural districts (the higher birth rates of the towns being accounted for by their higher proportion of women of conceptive age), and this advantage became gradually accentuated by their more favourable mortality experience However stated the fertility of Wales exceeds that of England, and this has been the case in each of the three years 1911–13 The survivors at age 5 in Wales exceed the births in the south of England in each of the geographical areas, and the smaller towns of the principality approximate most nearly to the old fashioned standard of birth rate

Causes of Infant Mortality

In the tables published since the Census year infant deaths have been shown in the first month and in each trimester of the first year after birth The mortality has also been recorded at the successive age groups in each of the five geographical divisions of England

In 1914 infant mortality showed a decrease on that of the preceding year from all the principal causes except whooping cough The summer of that year was drier and warmer than that of the preceding year, nevertheless the mortality from diarrhoeal diseases fell from 19 3 in 1913 to 17 4, although the rate was still more than double that obtaining in 1912, when it was only 7 72 per 1000 births The mortality from tuberculosis in 1914 fell to 2 86 per 1000 births, and was the lowest recorded except that of 1912 The fall noticed in the previous year's report in the mortality from tuberculous meningitis was maintained, the rate being 0 99, the lowest in the table There was, however, a corresponding rise in the loss of life from other forms of meningitis The mortality from the indefinite group of wasting diseases was the lowest since 1890 The loss of life due to premature birth and congenital defects was about equal to the average of recent years, during which it is probable that many deaths have been returned under this heading which would formerly have been attributed to atrophy

The tables show that the mortality of male infants was 25 per cent higher than that of female, and this is true of most of the causes except whooping cough The excess in the death rate of males was greatest in the second and third months of life, thereafter regularly decreasing Infant mortality in the urban areas exceeded that in the rural by 28 per cent, but this excess was very unevenly distributed over the several age groups, being only 6 per cent in the first month whilst it rose to 49 per cent at 9–12 months The chances of survival differ but little in town and country, but the noxious influences of town life soon come into play making themselves increasingly apparent as the first years of life progress, and being especially noticeable in the second and third years, when the urban excess generally approaches 100 per cent.

The harmful effect of urban residence is conspicuous in the case of respiratory diseases generally but especially so in regard to diarrhœa, the mortality from which disease in the towns was nearly twice as high as in the country Syphilis shows an even greater variation with urban conditions the mortality in the country districts whether among legitimate or illegitimate infants being about a quarter that of the towns It is most fatal in the first month after birth, and afterwards progressively less so Overlying is another cause of loss of infant life that is particularly common in great towns, the deaths from this cause being four times more numerous in London than in the rural parts of England The mortality unsatisfactorily ascribed to "convulsions was in London only about half that reported in the rest of the country This accords with the opinion previously expressed concerning the superiority of death certification in the metropolis It has often been insisted that this indefinite term, the use of which continues to show decline should only be employed when the condition causing convulsions cannot be ascertained

(*To be concluded*)

THE BRITISH DENTAL ASSOCIATION ANNUAL MEETING

WAR INJURIES AND GUNSHOT FRACTURES OF THE JAWS

THE annual meeting of the British Dental Association this year was entirely given to the consideration of practical problems connected with jaw injuries received during the war Mr W H DOLAMORE (London), the President of the Association, delivered an address, to which we call attention in a leading article

Upon the first day

The Early Treatment of Gunshot Fracture of the Jaws

was considered

Dr V H KAZANJIAN (Harvard Surgical Unit B E F) was the principal speaker He remarked that the conditions of the present-day warfare have caused an enormous number of injuries to the head, face, and jaws These may be of such a nature as to lead to death soon after admission to a general hospital Dr Kazanjian's experience is that the more common causes of these fatalities are 1 Secondary hæmorrhage, particularly in cases where the path of the bullet is in the vicinity of large vessels 2 Extensive inflammation and suppuration in the mouth, which extending to the air passages, may cause septic pneumonia 3 Extensive fracture of the upper jaw, which may involve the cranial bones and lead to intracranial infection There are also a certain number of cases in which, owing partly to unavoidable causes and partly to lack of treatment the following complications have been seen The infection in the mouth may spread and cause necrosis and unnecessary additional loss of tissue In treating patients who have fractures of the maxillæ the presence of dangerous illness may be the first consideration As soon as the general physical condition warrants it, the proper steps are taken to re establish normal function of the jaws and to reduce possible deformities of the face The treatment adopted at the general hospital, where the men usually arrive within three or four days after receiving their wounds is as follows The patients are put to bed and given a complete rest Free drainage is established from the external wounds, hypochlorous acid dressings with hot fomentations are applied to reduce suppuration and inflammation Except in cases of secondary hæmorrhage or other urgent complication no attempt to suture soft parts or to set the bones, nor indeed to do any operation, is undertaken, until the initial shock and weakness have disappeared Great attention is paid to the local condition of the mouth, the gums and teeth being painted with tincture of iodine, hourly douches of hydrogen peroxide and other antiseptic fluids are used To facilitate the removal of pus sputum and dried secretions from the nose and mouth the parts are sprayed with the following solution Ol menth pip ♏ss, liq cresolis sap ♏ij, paraffin liq ℥j Accumulations of tartar upon the teeth are thoroughly removed At times the mouth wounds are packed with iodised gauze, which is changed very frequently Excessive dribbling of saliva is overcome by the use of small hand pumps (or saliva ejectors) which the patient is instructed how to use With regard to diet the patients have generally to be fed upon liquid food administered by means of a tube carried far back into the mouth or into the œsophagus if necessary Nasal feeding is never used, and rectal feeding only rarely resorted to Patients fed in this manner sometimes lose weight for a week or two but after that steadily gain even if a [illegible] diet must be adhered to for a month or two The operative procedure is as follows Wherever possible the patient is given a rest of several days duration before operation At the operation in addition to the removal of particles of shell or bullets, septic and broken teeth and loose portions of bone are removed. Regarding hæmorrhage during the operation, the path of the projectile should be carefully considered in order that all possible sources of hæmorrhage may be recognised beforehand Dr Kazanjian has invented a very ingenious holder for controlling hæmorrhage from the lingual artery, it consists of a piece of heavy wire about 8 or 10 inches long bent to a U shape with a finger of modelling composition or vulcanite rubber on each end One end is placed in the floor of the mouth and the other externally under the chin between the hyoid bone and the lingual side of the mandible and the tissues are pinched at the site of fracture by the use of elastic bands about the clamp Dr Kazanjian also showed many ingenious splints and devices for supporting the soft tissues and hard parts Extensive use is made of local anæsthesia to diminish the pain in fixing splints &c For these purposes the nerve blocking method is chiefly employed

Splints and Appliances

Upon the second day the subject of appliances and splints was dealt with by Mr MONTAGU F HOPSON who spoke upon the Reduction of Displaced Portions of Bone by Immediate and Gradual Methods and the Retention of Parts in Normal Position during the Period of Union Mr Hopson observed that everyone is agreed that the earlier some sort of splint is applied the better and that experience has proved that the after treatment is often much hampered by the injudicious application of external pressure by bandaging and by the premature suturing of wounds of the soft parts unless some form of intra oral splint is inserted to maintain the fragments of fractured bones in approximately their normal relations For immediate use in the field he suggests the well known Hammond wire splint or in favourable cases bands clamped upon the teeth and united with wire bows or ligatures These splints should always be replaced as soon as the patient arrives at the nearest hospital As a general rule it may be said that where there are firm teeth in each fragment a fixed splint is the most useful, on the other hand where one or more fragments are devoid of teeth a removable apparatus is often called for and this may be of necessity of an inter dental form using the sound jaw as a basis against which the fractured fragments of the opposite jaw may be steadied Mr Hopson considers that splints should be constructed to conform as far as possible to the following general rules (1) Simplicity (2) a fixed splint should be aseptic and easily cleaned by irrigation (3) sites of fractures compound to the mouth or through an external wound should be uncovered both for drainage and for free irrigation (4) a splint that of necessity covers soft tissues should be removable for cleaning (5) splints with extra-oral attachments should be avoided so far as possible as they add to the discomfort of the patient

Mr J E SPILLER (London) speaking upon

The I[illegible] Prosthetic Apparatus

described the method adopted by Claude Martin of Lyons for the construction of part of an artificial jaw in [illegible] or metal The advantages claimed by Claude Martin in favour of immediate replacement of lost parts by artificial appliances were (1) Diminution of sepsis, (2) fixation of the fragments (3) prevention of retrocession of the tongue by temporary suture to the appliance (4) the almost immediate aid to mastication deglutition and speech (5) the maintenance in position of the soft parts and the prevention of cicatricial bands, (6) suppression of the constant escape of saliva Mr Spiller however considers that Martin did not foresee (1) the large amount of [illegible] and infection which are invariably present (2) the frequency of destruction of a large amount of the soft tissues (3) the advances in surgical methods especially in bone grafting He pointed out the importance of having a [illegible] which soft tissues may be held or [illegible] dental appliances [illegible] be readily removable by the wearer for [illegible] the remaining tissues [illegible]

Dr G VILLAIN (Paris) read a paper upon

The Physiological Treatment of Fractures and Dislocations

He pointed out that if a fractured jaw was to perform its normal function and not merely to be united in any position, a state of muscular dynamic equilibrium must be restored Dr Villain considers that mandibular fractures should be classified according to the causes or sources of irregularity —for example post-elevators inter elevators, pre-elevators with or without loss of substance The study of these forces includes the investigation of the resultant of each group of forces lowering, elevation protrusion retraction, lateral movement, then the examination of the resultant of forces in the combined action of all the masticatory muscles at the moment of trituration of foodstuffs One of the examples given was that of a pre-elevating unilateral left fracture with loss of substance In considering the resultant of forces brought to bear upon such a fracture one understands why it is that in closing the mouth the extremity of the large fragment rises more rapidly than the centre of this fragment, obliging the patient to bite in two movements—first movement, the mandible rises pivoting on the left condyle, the teeth on the edge of the fracture-line obtain contact with their antagonists, second movement, the jaw pivots partly round this point and partly round the right condyle in order to ensure the occlusion of the intermediary teeth then making contact with their antagonists Dr Villain s paper was fully illustrated by pictures and diagrams and will probably form a permanent contribution to our knowledge of this subject

The afternoon of this day was given to the consideration of

The Restoration of Lost Portions of the Jaw by Surgical Means

Bone-grafting was the topic round which the discussion ranged In opening it the PRESIDENT spoke of the controversy which had arisen as to the function of the periosteum in the formation of new bone He quoted experiments conducted in Germany by Axhausen to solve this problem Axhausen found that living bone entirely deprived of its periosteum became encysted and that the life of the periosteum and medulla and the formation of new bone depended upon the ease with which the lymph could reach the cells Nothing prevented this more than muscle fibres left on the bone, the thickness of the fibrous layer of the periosteum was also of great importance At the cut margins of the periosteum the cells are immediately in contact with the lymph whilst elsewhere this must first penetrate the fibrous layer before reaching them, also the newly formed vascular tissue early brings to them the nourishment essential to productive activity Hence at these cut margins there is rapid cell multiplication and early bone development Therefore it is advised that long incisions should be made through the covering periosteum of a graft especially where the fibrous layer of the periosteum is thick Axhausen considers that if the ends of the graft are pointed infection is more likely to occur than in cases where it is fixed by a wire suture

In view of the interest aroused by McEwen s work in this country these statements were very interesting In the resulting discussion while some speakers reported successful cases of bone grafts and all desired to see the method more widely used on the whole the feeling seemed to be that up to the present time the results obtained were rather disappointing

On the third day Mr J F COLYER (London) opened a discussion upon

The Treatment of Ununited Fracture and Malunion

He said that most of the cases which came under his care were those of non union or malunion and that it was his routine practice to have the cases radiographed immediately upon entry into the hospital and to examine them carefully for any possible septic foci In his experience non union is usually due to (1) sepsis, (2) undue mobility, (3) presence of foreign bodies in the wound, (4) loss of substance In order to diminish sepsis and to lessen the risk of subsequent infection it is Mr Colyer s practice to remove the teeth on either side of the fracture He exhibited skiagrams in which it was clearly shown how easily organisms or their toxins may pass down the periodontal membrane and keep up infection in the bone and he also quoted cases which had been under treatment at various hospitals for many weeks without union occurring in which bony union speedily ensued after the removal of septic teeth

Mr Colyer has often found that septic teeth lead to a spreading osteomyelitis. In treatment he always endeavours to obtain bony union, if necessary re-establishing occlusion by means of dentures at a later stage, the aim in treatment should be to fit men to return to military duty as speedily as possible. With this object in the cases where there has been loss of bony tissue in the horizontal ramus, Mr Colyer extracts the upper molar teeth and allows the ascending ramus on the affected side to swing forward and to unite with the horizontal ramus This treatment results in firm bony union and restoration of good masticating power at the expense of a shortening of the horizontal ramus upon the affected side which is so slight as to be very little noticeable. With reference to appliances, Mr Colyer avoids the use of wire splints and ligatures which may irritate the gum He has made use of double metal Gunning splints sometimes allowing them to be removable and sometimes fixing them with a good antiseptic cement such as the oxyphosphate of copper In reducing displacements he makes use of these metal splints, adjusting the upper and lower splints in the mouth so that the tissues are stretched and the displacement is partly reduced A period of rest follows, and then the splints are again adjusted and the parts stretched until their normal relationship has been attained.

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Captain Holt said that diet should be considered from two standpoints—*(a)* the nutritional value of the food supplied, *(b)* the mechanical use of such food as an auxiliary in restoring the natural movements of the jaws For this purpose four diets have been introduced, leading the patient on from a fluid to a solid diet *A* diet is fluid the regulation milk diet and beef tea diet forming its basis, and such extras as arrowroot, cornflour, and semolina are introduced to give variety *B* diet consists of minced foods, *C* of stewed foods Beef, mutton, and stewed rabbit are mixed with finely minced vegetables and potatoes The object of this diet is to bring gradually into work the muscles attached to the jaws without bringing too much strain to bear upon the freshly united bone *D* diet is the ordinary diet of military hospitals, in using it a gradual transition from boiled to roast meats is carried out

In addition to the papers there was an interesting museum containing appliances for supporting fractured jaws, torn soft parts, skin flaps &c This museum, which is at the house of the Royal Society of Medicine, Wimpole street remains open until Saturday, June 24th, and is well worth a visit.

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NOTES FROM INDIA

(FROM OUR OWN CORRESPONDENTS)

The Bombay Medical Act

AMONG a variety of subjects recently discussed by the Bombay Legislative Council was an amendment introduced in the Bombay Medical Act allowing the Poona municipality to continue its aid to an Ayurvedic dispensary which had been in existence for years in that town The Collector's ruling that under the Act it could not be supported out of the public funds had caused much dissatisfaction and led to an animated debate in the council on the comparative merits of the indigenous and the Western systems of medicine One honourable member flippantly observed that both the systems cured as many as they killed adding that people managed to live in the old days before the introduction of Western medicine, about as well as they did now The fervour with which the indigenous system was upheld by several Indian members of the council is truly patriotic, but there is only one Ayurvedic dispensary aided by a municipality in Western India The Government seem to have strong internal doubts as to its value But it is very popular with the multitude and therefore they have agreed to make a concession to popular and pay their mother £1 16s per week for their board and lodging Applicant s health is bad and she is only able to earn a little by needlework Owing to the high price of food finds it difficult to get on Relieved four times £46. Voted £12 in 12 instalments —Widow aged 59 of M R C S Eng who practised at Enfield and died in 1905 Only income £37 from property and £40 from friend Has two daughters one married and the other a permanent invalid Relieved five times £25 Voted £5.—Daughter aged 64 of M.R.C S Eng who practised at Lydney and died in 1880 Applicant lost all her income through the action of a trustee Only permanent income now outside help from the Fund a R U K.B Assoc pension of £21 Relieved ten times £104 Voted £12 in 12 instalments —Daughter aged 52, of M R C S Eng who practised at Box and died in 1894 Is a permanent invalid Lives with two sisters only one of whom is able to earn a little as a companion and the other has help from the Fund and Guild and another charity Relieved five times £66 Voted £12 in 12 instalments — Daughter aged 77 of M R C S Eng who practised at Hackney and died in 1859 Applicant lost all her capital through bad investments by trustees and is now dependent on friends who provide £55 per annum Relieved four times £51 Voted £15 in 12 instalments — Daughter aged 64 of M.R C S Eng who practised at Liverpool and died in 1885 Applicant was left unprovided for and acted as matron of a private home for many years at a small salary and was unable to save and had to retire after 60 years of age and is now too old to undertake work Has recently been elected to a pension of £30 from another charity Relieved twice £20 Voted £12 in 12 instalments —Daughter aged 67 of M R C S Eng who practised in London and died in 1890 Applicant and two sisters were left unprovided for but have tried to earn a living by taking in boarders and teaching but of late have not been successful, and the house and furniture are in a bad state of repair One of the sisters is also in receipt of help from the Fund Voted £12 in 12 instalments — Widow aged 69 of M R.C S Eng who practised in Jamaica and died in 1894 Was left totally unprovided for at husband s death Has three children but none able to help Only income a pension of £26 from a society in Jamaica and occasional help from her brother Health very bad Relieved 11 times £75 Voted £12 in 12 instalments —Daughter aged 59 of L.S.A. Lond who practised at Long Sutton and died in 1879 Only income £25 per annum from dividends Acts as housekeeper without salary so as to keep together the home for the children of her late employer Relieved once £12. Voted £12 in 12 instalments —Widow aged 65 of M R.C S Eng who practised at Stockton-on Tees and died in 1897 Applicant was left without means with two young children one of whom is now in the army and a daughter who is a clerk and pays 12s a week for board and lodging Has an army allowance of 7s per week from son Applicant acts as caretaker at a shop so lives rent free. Health very indifferent. Voted 12 times £106. Voted £9 in 12 instalments — Widow, aged 60 of L.R C P Edin who practised at Streatham and died in 1913. Was left entirely without means and endeavours to make a living by taking in paying guests but has not been successful recently Receives a little help from friends Relieved three times £24 Voted £1 and her case referred to the Guild for a report — M R C S Eng aged 49 who practised at Wigan and abroad Health became thoroughly undermined when abroad and he had to be sent home and has not been able to work since Lives with an aunt who cannot afford to keep him. Relieved twice £20 Voted £5 and referred to the Guild

Subscriptions may be sent to the honorary treasurer, Dr Samuel West 11 Chandos street Cavendish square London W

THE SERVICES

ROYAL ARMY MEDICAL CORPS

Temporary Lieutenants to be temporary Captains H Catling and A Griffiths J W Struthers to be temporary Captain

F A Bell to be temporary Honorary Captain whilst serving with No 5 British Red Cross Hospital

Lieutenants of the Canadian Army Medical Corps to be temporary Lieutenants H S McSorley, G H Clement G B Archer B W Mosher, P Nase, G O Hutchinson and J I Bryans

Temporary Honorary Lieutenants to be temporary Lieutenants L ap I Davies A R Hirsch and T Anwyl Davies

To be temporary Lieutenants A A Halliday A W McGregor, C Harris T B Shoolbread, H G A Haynes J I Walsh A Wood, W G Johnstone B C Haller S N Isbington M J Ahern C J Todd A Finlay H A Colwell J C McMillan L Blake H I Davidson W H Harvey, I Connell H H O Hefferman H L Shelton A L Connolly G H Malmster T F Dobbs W Steadman F A Beaumont H I Wilson A F Gravelle A P Gibbons, A J M Crichton A J Bennee W P H Lightbody J C Macaulay and J T Lloyd

To be temporary Honorary Lieutenants W M Crombie H H [illegible] H J H Symons G T Symons W T Warrick A I Fuller and W Farquharson

Temporary Lieutenant I Dowden relinquishes his commission

Temporary Lieutenant Arthur W Jones relinquishes his commission on account of ill health

SPECIAL RESERVE OF OFFICERS

[illegible] George C I Woolrych is confirmed in his rank

TERRITORIAL FORCE

Royal Army Medical Corps

South Midland Mounted Brigade Field Ambulance J McG H Reid, late temporary Lieutenant, R A M C, to be Lieutenant

London (City of London) Field Ambulance Major J A Masters to be temporary Lieutenant Colonel

South Midland Field Ambulance Captain A A Hingston to be temporary Major

West Riding Field Ambulance Major (temporary Lieutenant-Colonel) A B S Stewart relinquishes his temporary rank on ceasing to command a Field Ambulance Captain H N Goode to be temporary Major whilst commanding a Field Ambulance

Wessex Field Ambulance Lieutenant J B Kelly to be Captain

London General Hospital Major L B Rawling is seconded for duty with a General Hospital

Wessex Casualty Clearing Station A M Jones, late Captain, Royal Welsh Fusiliers, to be Lieutenant

London Sanitary Company C G Moor to be Lieutenant

East Lancs Field Ambulance Major R C Rodgers is seconded for duty with a War Hospital

West Lancs Field Ambulance Major J Wood to be temporary Lieutenant Colonel whilst commanding a Field Ambulance

London Field Ambulance Lieutenant E N Butler to be Captain

DEATHS IN THE SERVICES

Deputy Surgeon General Edward Malcolm Sinclair, C B, on June 14th, in his 85th year He entered the service in 1854, and went to the Crimea on the outbreak of hostilities He was present at the fall of Sebastopol, and afterwards served through the Indian Mutiny taking part in several actions as well as the siege and capture of Lucknow During the Transvaal campaign of 1881 he acted as principal medical officer on the lines of communication and at the base (mentioned in despatches) He retired in 1888

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 7959 births and 4095 deaths were registered during the week ended Saturday, June 17th The annual rate of mortality in these towns which had declined from 17 0 to 12·0 per 1000 in the seven preceding weeks rose in the week under notice to 12 3 per 1000 of their aggregate civil population estimated at 17 312,295 persons for the year 1915 During the first 11 weeks of the current quarter the mean annual death rate in these towns averaged 14 7, against 14 2 per 1000 in London Among the several towns the death rate last week ranged from 3 3 in Eastbourne, 4 3 in Wallasey 5 1 in Enfield 5 8 in Ilford and in Warrington and 6 5 in Coventry to 17 7 in Burnley and in Gateshead, 18 0 in Hastings, 18 5 in Dudley, and 19·4 in Wakefield

The 4095 deaths from all causes were 97 in excess of the number in the previous week, and included 248 which were referred to the principal epidemic diseases against 335 and 300 in the two preceding weeks Of these 248 deaths, 76 resulted from whooping-cough, 65 from measles 52 from infantile diarrhœal diseases 34 from diphtheria 11 from enteric fever, 9 from scarlet fever and 1 from small pox The annual death rate from these diseases was equal to 0 7, or 0 2 per 1000 less than in the previous week The deaths attributed to whooping-cough, which had been 131, 125, and 102 in the three preceding weeks, further declined to 76 and included 14 in London 9 in Birmingham, 6 each in Liverpool and Manchester and 4 each in Gateshead and Newport (Mon) The deaths referred to measles, which had been 85 104 and 70 in the three preceding weeks fell to 65 of which 18 were registered in London 7 in Liverpool 6 each in Manchester and Sheffield and 5 in Birmingham The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 53 58 and 63 in the three preceding weeks fell to 52 and included 15 in London and 3 each in Birmingham and Middlesbrough The deaths attributed to diphtheria which had been 34 32 and 52 in the three preceding weeks fell to 34 9 deaths were recorded in London 4 in Birmingham, and 3 in Sheffield The 11 deaths from enteric fever were 4 in excess of the average in the earlier weeks of the quarter and included 2 in Middlesbrough The deaths referred to scarlet fever which had been 16 8 and 9 in the three preceding weeks were again 9 last week of which 4 belonged to Birmingham The fatal case of small pox was recorded in Cardiff

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(FROM OUR OWN CORRESPONDENTS)

The Bombay Medical Act

AMONG a variety of subjects recently discussed by the Bombay Legislative Council was an amendment introduced in the Bombay Medical Act allowing the Poona municipality to continue its aid to an Ayurvedic dispensary which had been in existence for years in that town The Collector s ruling that under the Act it could not be supported out of the public funds had caused much dissatisfaction and led to an animated debate in the council on the comparative merits of the indigenous and the Western systems of medicine One honourable member flippantly observed that both the systems cured as many as they killed, adding that people managed to live in the old days before the introduction of Western medicine about as well as they did now The fervour with which the indigenous system was upheld by several Indian members of the council is truly patriotic but there is only one Ayurvedic dispensary aided by a municipality in Western India The Government seem to have strong internal doubts as to its value But it is very popular with the multitude and therefore they have agreed to make a concession to popular feeling by a modification of the Act, ensuring it the continuance of municipal aid It is as well, says the *Advocate of India*, that the Government have refrained from making the alteration in the law so comprehensive as to render it applicable to all Ayurvedic or Unani dispensaries that a municipality might choose to help, as a provision of this nature would have operated against the real well being of the public

Bombay Presidency Hospital

Lord Willingdon, as President of the Bombay Branch of the Imperial Indian Relief Fund, has received the following letter from General J G Maxwell, Commanding the Forces in Egypt, regarding the work of the Bombay Presidency General Hospital —

> YOUR EXCELLENCY —I cannot let the Bombay Presidency General Hospital return to India without expressing our grateful thanks for the services of this excellent unit On Jan. 18th 1915, this hospital of 500 beds arrived in Alexandria. On Feb 26th the first patients 50 Indians from overseas were admitted On March 9th the hospital was temporarily converted for Europeans and utilised for the reception of Australian patients On March 23rd the hospital was temporarily lent to the French military authorities and remained a French hospital from that date until August 27th 1915 when it again became British. In March it was expanded by 100 beds and in July by 200 more but as a matter of fact the number of beds was 875 During the period the hospital was opened it has from time to time received Indian patients from overseas and those operating in Egyptian territory From the opening of the hospital until March 10th, 1916 the following patients were admitted: Indian 1410 British 1838 Australians 493 New Zealanders 75 French 1641 Russians 3 total, 5463 The average number per day was 411 and the largest number on any day 873. The largest number admitted on any one day was 362 (August 25th 1915) The above constitutes an Imperial record which the Presidency may well feel proud of and I will be obliged if you will kindly convey this letter with our thanks to the committee for their patriotism in allowing a hospital destined for Indian patients to be used so freely for Imperial purposes

Motor Ambulances from the United Provinces

The United Provinces Special War Fund has already made such good progress that his Honour Sir James Meston has felt justified in consulting Sir John Hewett at home as to the steps necessary for purchasing on behalf of the people of the provinces a fleet of 50 ambulance cars

Health of the British Troops in Delhi

There have been a few cases of small pox among British troops in the Delhi garrison, otherwise the health of Delhi city is good

May 30th

ROYAL MEDICAL BENEVOLENT FUND

AT the last meeting of the committee, held on June 6th, 18 cases were considered and £190 were voted to 17 of the applicants The following is a summary of the cases relieved —

Widow aged 40 of L R C P Edin who practised at Cliffoney co Sligo and died in 1912. After her husband s death applicant opened a sweet shop in a Scottish town and managed to get on until she had to undergo an operation in May 1915 The Fund then made her a grant of £10 In April 1916 her shop was blown up by a bomb from a Zeppelin and all her stock and furniture destroyed and she was not insured Now wants help to re-establish herself Voted £15 —Widow aged 45 of L.R C P Edin who practised in the East End of London and died in December 1915 Applicant is partially paralysed and was left practically unprovided for at her husband s death and has had to live on the small sum the practice realised of which only about £70 is left Has one son aged 6 years Has no home and is staying with relatives who have promised to give all they can which only amounts to £13 per year Voted £10 in two instalments —Widow aged 33 of L S A. Lond who practised in North London up to a few years ago and latterly and up to his death in March of this year has been taking locums Applicant was left unprovided for with five daughters aged 17 months to 10 years and at present they are staying with her mother who cannot afford to keep them Applicant's furniture is in store with a large debt owing on it. If she could get her furniture she hopes to be able to make a living by taking in boarders Only income £12 per annum from a relative An immediate special grant of £5 has been given and the Guild are already investigating the case Voted £12 in 12 instalments —Widow aged 61 of M R.C.S Eng who practised at Whitechapel and died in 1913 Applicant s only income is £23 per year the income from the investment of a life insurance and 3s per week from a son Son in law used to help in paying the rent but owing to the war has had to discontinue this applicant is in great difficulties Voted £12 in 12 instalments —Widow aged 64 of M D Glasg who practised at Glasgow and died in 1903 Applicant was left totally unprovided for and has tried to make a living by taking in lodgers but recently has been unsuccessful and during the last year has only received £ from this source Only other income £22 from other charities Relieved twice £24 Voted £12 in 12 instalments —Widow aged 51 of L.S A. Lond who practised at Leicester and died in 1910 Applicant was unprovided for with two daughters now 21 and 22 years of age and a son now aged 14 The girls are now both working and pay their mother £1 16s per week for their board and lodging Applicant s health is bad and she is only able to earn a little by needle work Owing to the high price of food finds it difficult to get on Relieved four times £46 Voted £12 in 12 instalments —Widow aged 53 of M.R C S Eng who practised at Enfield and died in 1905 Only income £37 from property and £40 from friend Has two daughters one married and the other a permanent invalid Relieved five times £25 Voted £5.—Daughter aged 64 of M.R.C S Eng who practised at Lydney and died in 1880 Applicant lost all her income through the action of a trustee. Only permanent income now outside help from the Fund a R U K.B.Assoc pension of £21 Relieved ten times £104 Voted £12 in 12 instalments —Daughter aged 52, of M R C S Eng who practised at Box and died in 1894 Is a permanent invalid. Lives with two sisters only one of whom is able to earn a little as a companion and the other has help from the Fund and Guild and another charity Relieved five times £66 Voted £12 in 12 instalments — Daughter aged 77 of M R C S Eng who practised at Hackney and died in 1859 Applicant lost all her capital through bad investments by trustees and is now dependent on friends who provide £55 per annum Relieved four times £51 Voted £15 in 12 instalments — Daughter aged 64 of M R.C S Eng who practised at Liverpool and died in 1835 Applicant was left unprovided for and acted as matron of a private home for many years at a small salary and was unable to save and had to retire after 60 years of age and is now too old to undertake work Has recently been elected to a pension of £30 from another charity Relieved twice £20 Voted £12 in 12 instalments —Daughter aged 67 of M R C S Eng who practised in London and died in 1890 Applicant and two sisters were left unprovided for but have tried to earn a living by taking in boarders and teaching but of late have not been successful and the house and furniture are in a bad state of repair One of the sisters is also in receipt of help from the Fund Voted £12 in 12 instalments — Widow aged 69 of M R C.S Eng who practised in Jamaica and died in 1834 Was left totally unprovided for at husband s death Has three children but none able to help Only income a pension of £26 from a society in Jamaica and occasional help from her brother Health very bad Relieved 11 times £75 Voted £12 in 12 instalments. —Daughter aged 59 of L.S A. Lond who practised at Long Sutton and died in 1879 Only income £25 per annum from dividends Acts as housekeeper without salary so as to keep together the home for the children of her late employer Relieved once £12. Voted £12 in 12 instalments —Widow aged 55 of M R C S Eng who practised at Stockton-on Tees and died in 1897 Applicant was left without means with two young children one of whom is now in the army and a daughter who is a clerk and pays 12s a week for board and lodging Has an army allowance of 7s per week from son. Applicant acts as caretaker at a shop so lives rent free Health very indifferent. Voted 12 times £106. Voted £9 in 12 instalments — Widow, aged 60 of L.R C P Edin who practised at Streatham and died in 1915. Was left entirely without means and endeavours to make a living by taking in paying guests but has not been successful recently Receives a little help from friends. Relieved three times £24 Voted £1 and her case referred to the Guild for a report.— M R C S Eng aged 49 who practised at Wigan and abroad Health became thoroughly undermined when abroad and he had to be sent home and has not been able to work since Lives with an aunt who cannot afford to keep him. Relieved twice, £20 Voted £5 and referred to the Guild

Subscriptions may be sent to the honorary treasurer, Dr Samuel West, 11 Chandos street, Cavendish square London W

THE SERVICES

ROYAL ARMY MEDICAL CORPS

Temporary Lieutenants to be temporary Captains H Catling and A Griffiths J W Struthers to be temporary Captain

F A Bell to be temporary Honorary Captain whilst serving with No 5 British Red Cross Hospital

Lieutenants of the Canadian Army Medical Corps to be temporary Lieutenants H S McSorley, G H Clement G B Archer, B W Mosher, P Nase, G O Hutchinson and I F Bryans

Temporary Honorary Lieutenants to be temporary Lieutenants L ap I Davies, A R Hirsch, and T Anwyl Davies

To be temporary Lieutenants A A Halliday A W McGregor, C Harris T B Shoolbread H G A Haynes J I Walsh A Wood, W G Johnstone B C Haller S N Babington M J Ahern C J Todd A Finlay H A Colwell J C McMillan L Blake H J Davidson W H Harvey, J Connell H H O Heffernan H L Shelton A L Connolly G H Alabaster T I Dobbs W Steadman E N Beaumont H I Wilson A F Gravelle A P Gibbons A J M Crichton A J Bennee W P H Lightbody J C Macaulay and J T Lloyd

To be temporary Honorary Lieutenant W M Crombie H H [illegible] H J H Symons G T Symons W T Warwick A R Fuller and W Farquharson

Temporary Lieutenant R Dowden relinquishes his commission

Temporary Lieutenant Arthur W Jones relinquishes his commission on account of ill health

SPECIAL RESERVE OF OFFICERS

Lieutenant [illegible] (Probationary) [illegible] I Woolr[illegible] is con[illegible] his rank

TERRITORIAL FORCE

Royal Army Medical Corps

South Midland Mounted Brigade Field Ambulance *J McG H Reid, late temporary Lieutenant, R A M C*, to be Lieutenant

London (City of London) Field Ambulance Major J A Masters to be temporary Lieutenant-Colonel

South Midland Field Ambulance Captain A. A Hingston to be temporary Major

West Riding Field Ambulance Major (temporary Lieutenant-Colonel) A B S Stewart relinquishes his temporary rank on ceasing to command a Field Ambulance Captain H N Goode to be temporary Major whilst commanding a Field Ambulance

Wessex Field Ambulance Lieutenant J B Kelly to be Captain

London General Hospital Major L B Rawling is seconded for duty with a General Hospital

Wessex Casualty Clearing Station A M Jones, late Captain, Royal Welsh Fusiliers, to be Lieutenant

London Sanitary Company C G Moor to be Lieutenant

East Lancs Field Ambulance Major R C Rodgers is seconded for duty with a War Hospital

West Lancs Field Ambulance Major J Wood to be temporary Lieutenant Colonel whilst commanding a Field Ambulance

London Field Ambulance *Lieutenant* E N Butler to be Captain

DEATHS IN THE SERVICES

Deputy Surgeon General Edward Malcolm Sinclair, C.B, on June 14th, in his 85th year He entered the service in 1854, and went to the Crimea on the outbreak of hostilities He was present at the fall *of Sebastopol, and* afterwards served through the Indian Mutiny taking part in several actions as well as the siege and capture of Lucknow During the Transvaal campaign of 1881 he acted as principal medical officer on the lines of communication and at the base (mentioned in despatches) He retired in 1888

VITAL STATISTICS

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 7959 births and 4095 deaths were registered during the week ended Saturday, June 17th The annual rate of mortality in these towns which had declined from 17·0 to 12·0 per 1000 in the seven preceding weeks, rose in the week under notice to 12 3 per 1000 of their aggregate civil population estimated at 17 312,295 persons for the year 1915 During the first 11 weeks of the current quarter the mean annual death rate in these towns averaged 14 7, against 14 2 per 1000 in London Among the several towns the death rate last week ranged from 3 3 in Eastbourne, 4 3 in Wallasey 5 1 in Enfield, 5 8 in Ilford and in Warrington and 6 5 in Coventry, to 17 7 in Burnley and in Gateshead, 18 0 in Hastings, 18 5 in Dudley, and 19·4 in Wakefield

The 4095 deaths from all causes were 97 in excess of the number in the previous week, and included 248 which were referred to the principal epidemic diseases, against 335 and 300 in the two preceding weeks *Of these* 248 deaths, 76 resulted from whooping-cough, 65 from measles, 52 from infantile diarrhœal diseases, 34 from diphtheria 11 from enteric fever, 9 from scarlet fever and 1 from small pox The annual death rate from these diseases was equal to 0·7, or 0·2 per 1000 less than in the previous week The deaths attributed to whooping-cough, which had been 131, 125, and 102 in the three preceding weeks, further declined to 76, and included 14 in London 9 in Birmingham, 6 each in Liverpool and Manchester and 4 each in Gateshead and Newport (Mon) The deaths referred to measles, which had been 85 104 and 70 in the three preceding weeks, fell to 65 of which 18 were registered in London, 7 in Liverpool 6 each in Manchester and Sheffield and 5 in Birmingham The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 53 58, and 63 in the three preceding weeks fell to 52 and included 15 in London and 3 each in Birmingham and Middlesbrough The deaths attributed to diphtheria which had been 34 32 and 52 in the three preceding weeks fell to 34, 9 deaths were recorded in London 4 in Birmingham and 3 in Sheffield The 11 deaths from enteric fever were 4 in excess of the average in the earlier weeks of the quarter, and included 2 in Middlesbrough The deaths referred to scarlet fever which had been 16 8 and 9 in the three preceding weeks were again 9 last week of which 4 belonged to Birmingham The fatal case of small pox was registered in Cardiff

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily declined from 1778 to 1313 in the 10 preceding weeks, further fell to 1302 on Saturday last, 149 new cases were admitted during the week, against 161, 163, and 166 in the three preceding weeks These hospitals also contained on Saturday last 1286 cases of diphtheria, 213 of whooping-cough 173 of measles 33 of enteric fever, and 1 of small pox. The 905 deaths from all causes in London were 63 fewer than in the previous week, and corresponded to an annual death rate of 10·9 per 1000 The deaths referred to diseases of the respiratory system, which had been 128, 117, and 130 in the three preceding weeks, rose to 137 in the week under notice

Of the 4095 deaths from all causes in the 96 towns, 128 resulted from violence, 313 were the subject of coroners' inquests, and 1211 occurred in public institutions The causes of 37, or 0 9 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, and in 74 other smaller towns Of the 37 uncertified causes, 7 were registered in Liverpool, 6 in Birmingham, 4 in Stoke-on Trent, 3 each in London and South Shields, and 2 each in St Helens and Gateshead.

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2,372,000 persons at the middle of this year, 1132 births and 555 deaths were registered during the week ended Saturday, June 17th The annual rate of mortality in these towns, which had been 14 4, 14 7, and 12 9 per 1000 in the three preceding weeks, fell to 12 2 per 1000 in the week under notice During the first 11 weeks of the current quarter the mean annual death rate in these towns averaged 15 7, against 14 7 per 1000 in the large English towns Among the several towns the death rate last week ranged from 4 0 in Hamilton, 5 7 in Clydebank, and 6 2 in Ayr, to 13 8 in Glasgow, 16 1 in Greenock and in Motherwell, and 18 4 in Falkirk

The 555 deaths from all causes were 31 less than the number in the previous week, and included 39 which were referred to the principal epidemic diseases, against numbers declining from 66 to 52 in the three preceding weeks Of these 39 deaths, 17 resulted from measles, 7 from whooping-cough, 6 from scarlet fever, 5 from diphtheria, and 4 from infantile diarrhœal diseases, but not one from enteric fever or from small pox. The annual death rate from these diseases was equal to 0·9, against 0 7 per 1000 in the large English towns The deaths attributed to measles, which had been 34, 26, and 13 in the three preceding weeks, rose to 17, which were all recorded in Glasgow The deaths referred to whooping cough, which had been 9, 10, and 9 in the three preceding weeks, fell to 7, of which 6 occurred in Glasgow The fatal cases of scarlet fever, which had been 3, 5, and 10 in the three preceding weeks, fell to 6, and were all recorded in Glasgow The 5 deaths attributed to diphtheria included 2 in Glasgow, and were slightly below the average in the earlier weeks of the quarter The 4 deaths from infantile diarrhœa comprised 3 in Glasgow, and 1 in Edinburgh

The deaths referred to diseases of the respiratory system, which had been 101, 83, and 92 in the three preceding weeks, fell to 75 in the week under notice and were 18 below the number in the corresponding week of last year The deaths from violence numbered 14, against 34 and 20 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the registration area of Dublin 203 births and 140 deaths were registered during the week ended Saturday, June 17th The annual rate of mortality, which had been 19 8, 19 3 and 17 7 per 1000 in the three preceding weeks rose to 17 8 in the week under review, against corresponding rates of 10·9 and 13 8 per 1000 in London and Glasgow respectively

Of the 140 deaths at all ages 26 related to infants under 1 year and 31 to persons aged 65 years and upwards The deaths referred to the principal epidemic diseases numbered 7, and comprised 3 from infantile diarrhœa, 2 from diphtheria and 1 each from measles and scarlet fever The causes of 9 deaths were uncertified, and 2 others were the subject of coroners' inquests while 63 or 45 per cent, of the total deaths occurred in public institutions

During the same period 163 births and 117 deaths were registered in the city of Belfast The deaths corresponded to an annual rate of 15 1, or 1 2 per 1000 less than in the previous week, and included 15 of infants under 1 year and 22 of persons aged 65 years and upwards The deaths from the principal epidemic diseases numbered 9 against 6 in the previous week and included 3 from whooping-cough and 2 each from measles scarlet fever, and infantile diarrhœa The causes of 4 deaths were uncertified and 2 others were the subject of coroners' inquests while 34 of the total deaths occurred in public institutions

Correspondence.

"Audi alteram partem."

REPORT OF THE COMMISSION ON THE DECLINING BIRTH-RATE

To the Editor of THE LANCET

SIR,—While agreeing to the facts set out in this report most men and women who recognise the extreme importance of the subject will desire a clearer statement of the logical conclusion to which these facts and a knowledge of the world clearly lead While precluded by foreign service from assisting in the preparation of this report, I beg to suggest the inevitable conclusion.

(*a*) The evidence shows that the decline of the birth rate mainly depends on three coexisting factors—knowledge and availability of methods for restriction of the family and intention to use them No study of causes or proposals for dealing with the problems involved is of value unless equally applied to each of these factors

(*b*) The evidence suggests that the knowledge and availability were first developed among nations in the most quick witted and logical—namely in France, and, subject to religious and moral scruples, have in the United Kingdom been first developed in the best-informed and well to-do classes The decline is then likely to continue, if other conditions remain unchanged, until these methods become known by, and available to, all classes This extension seems certain The intention to use these methods, however, is likely to be lacking among those who are least provident and slowest-witted

(*c*) The intention to limit the family depends mainly on competition, and this, again, on the law of supply and demand and on freedom of communications, both in material and non material aims, selfish and public-spirited The two chief forms of competition affecting the welfare of nations are the military and economic The first passes, for a time, with the advent of peace The second has been the basis of human progress in Western communities during the past century It is not the only basis of progress It is directly combated by the protective policy of organised labour and by the fiscal policy of many countries

(*d*) The countervailing forces capable of development are (1) reduction of the standard of luxury in all classes, (2) reduction of competition, especially in the young, as a means of comparing attainments, (3) recognition of the need for population, (4) general encouragement of natural instinct and expression as opposed to deliberate intention, (5) a change of public opinion in all classes regarding the honour of successful child bearing and child rearing especially as woman's form of active service to the State, (6) public recognition of this service in the terms given to public servants of all ranks comparable to the separation allowance given to the rank and file of the navy and army in the present war, (7) encouragement of marriage amongst all public servants including those serving abroad, (8) outspoken leadership on the part of all public men and women, especially in the schools in recognition of this prime function of citizenship, (9) encouragement of earlier marriage, (10) limitation as far as possible, of female responsibilities and duties to the home, direction of female education accordingly subject to the numerical disparity in the Empire as a whole between the sexes, maintenance of the family unit under the single headship of the man

(*e*) Evidence suggests that if any limitation of family be sanctioned there would be little actual adherence to any moral distinction between mechanical and non mechanical active and passive methods for the avoidance of conception

(*f*) Population is equally required for the furtherance of any form of activity material mental or spiritual, and is an essential factor in the strength whether in quality or degree of any community in face of competition

(*g*) The practical steps required to give force to these considerations would be best considered by a Departmental Committee and by *ad hoc* committees to be appointed by the responsible bodies of religious communities and other leading interests concerned

I am Sir yours faithfully

F E FREMANTLE

Lieutenant Colonel R A M C (T)

Egypt May 11th 1916

THE ETYMOLOGY OF DIABETES

To the Editor of THE LANCET

SIR,—My attention has just been drawn to Dr Walter G Smith s suggestion in his paper in your issue of June 3rd that the term diabetes is derived from the Greek for a pair of compasses on account of the straddling attitude maintained in the act of micturition It seems somewhat futile to make fresh guesses at this question, but with respect to this proposal I should like to remind Dr Smith that the erect and straddling attitude is not common and would be regarded by all modern oriental people as indecent The squatting attitude is practically universal among them

I am, Sir, yours faithfully,

Birmingham, June 16th 1916 ROBERT SAUNDBY

SPINAL ANÆSTHESIA AND ITS USE IN THE TRENDELENBURG POSITION

To the Editor of THE LANCET

SIR,—With reference to the interesting article by Mr H M Page in your issue of June 10th I should like to add a few notes which confirm his good results Mr Page reports 70 cases, but in only 12 was the operation done without any general anæsthesia The use of the Trendelenburg position in the production of spinal anæsthesia is not of course, a new procedure, as it was advocated many years ago by Jonnesco and other continental surgeons, of whom Saradnicky reported 600 cases without any bad result. In the last few months I have used spinal anæsthesia in nine cases where the Trendelenburg position was employed (1) Wertheim's operation for carcinoma uteri, (2) three cases of pyosalpinx (one of both tubes), (3) two cases of prolapsus uteri (Gilliam s operation), in one case appendicectomy also done, (4) one case of parametritis and pelvic peritonitis, (5) two cases of suprapubic prostatectomy There were no bad effects or after effects, except slight headache in one case By giving a preliminary injection of morphine and atropine I have found it unnecessary to give general anæsthesia in these cases

I note in Mr Page's list cases of ventral hernia, intestinal obstruction gastro-jejunostomy, ruptured liver, &c, in which I presume the Trendelenburg position was employed only for the purpose of producing anæsthesia, &c., and not for facilitating the operation, as such a position would increase the dangers and difficulties of the operation, although if such be the case I cannot quite understand the reason for waiting 15 or 20 minutes before placing the patient in the Trendelenburg position Mr Page does not state the site of his injection but it is surely unnecessary to resort to the Trendelenburg position for such cases, as complete anæsthesia of the whole abdomen can be obtained usually in five minutes by injecting into the space between the twelfth dorsal and first lumbar vertebræ

I have employed this method in many operations on the upper abdomen such as perforated gastric ulcer gastro-enterostomy gastrostomy acute intestinal obstruction &c with perfect anæsthesia and complete relaxation of the abdominal walls merely raising the buttocks for a few moments until anæsthesia is produced, and keeping the head and shoulders slightly raised all the time thus obviating the danger of respiratory failure In using the dorso-lumbar method for operations in the upper abdomen Jonnesco keeps the patient in the sitting position for a few minutes and afterwards in the dorsal position with the head raised only resorting to the Trendelenburg position for a few minutes when the anæsthesia was incomplete I have seen no bad effects however from placing the patient in the dorsal position immediately after the injection and the anæsthesia is surer and produced [illegible]

It was pointed out by Jonnesco that injection in the dorso-lumbar space gave a more perfect anæsthesia than in the [illegible] between the third and fourth lumbar vertebræ [illegible] I am convinced that the percentage of failures requiring general anæsthesia is much less if one employs the higher [illegible] I have had no bad effects in over 100 cases where [illegible] I ought however to add that [illegible] in the dorso-lumbar space I invariably [illegible] and [illegible] (average dose [illegible] stovaine and 1 mgr of strychnine prepared in ampoules by Martindale) as originally advocated by Jonnesco For operations in which the Trendelenburg position is employed the addition of strychnine seems especially desirable to obviate the risk of respiratory failure

I am, Sir, yours faithfully,

A. G STEWART

Paddington Infirmary, Harrow road W June 14th 1916

THE EFFECT OF FERRIVINE AND INTRAMINE ON SYPHILIS

To the Editor of THE LANCET

SIR,—I cannot help drawing attention to the fact that Lieutenant Colonel L W Harrison and Mr C H Mills, like all those who have criticised my research work on syphilis, having repeated none of it themselves, go to such pains to attempt to convince their readers that they are unprejudiced Why is this necessary, other than for the reason that they are biassed throughout? So far as the clinical part of the article written by Colonel Harrison and Mr Mills in your issue of to-day's date is concerned, all I need say in answer to it is that I should not be using ferrivine and intramine every day if I was not firmly convinced that my patients were gaining advantages unobtainable with other existing remedies That men who have had a scientific training should assume that my work on the Leucocytozoon syphilidis is incorrect because no biologist of standing has repeated the work is incomprehensible Are both Colonel Harrison and Mr Mills ignorant of the fact that the longer a view in medicine takes to be accepted the more correct it is, and *vice versa*?—medical history teems with instances Furthermore why do not Colonel Harrison and Mr Mills repeat the work themselves? It may be taken for granted that, had a biologist of standing repeated the work and found it wanting, he would not have emulated the authors by rushing into print to proclaim the fact with so little experience as that forming the basis of the article in question Whatever eminent chemists may say in private to Colonel Harrison and Mr Mills is no concern of mine, but as they publicly state that eminent chemists have confessed themselves unable to understand my chemistry, I must ask them in the interests of science to be so kind as to ask these chemists to come forward and publicly draw attention to the statements which bewilder them

I am Sir, yours faithfully,

Wimpole-street W June 17th 1916. J E R MCDONAGH

Obituary.

RONALD EDWARD STEWART KROHN, M D LOND

Ronald E S Krohn, second son of Nicholas Krohn was educated at University College School and took his medical course at University College Hospital, obtaining the M D of London University in 1892. Soon after starting in general practice in Hampstead some threatening of lung trouble appeared which made it advisable for him to leave London He therefore settled in Madeira where he worked up an extensive surgical practice largely amongst the Portuguese During this time he was working at very high pressure and after eight years his health completely broke down and he was obliged to leave Madeira He then went to Switzerland, where he assisted in starting the Wald sanatorium Arosa his great powers of organisation being of service in putting the institution on a sound footing Unfortunately the disease progressed in spite of all precautions and after a year or two in England where Dr Krohn devoted himself to the translation of medical works he returned to Switzerland and died on May 5th in the sanatorium which he had helped to start aged 43 years

Dr Krohn was possessed of a charming personality and was loved by his patients and many friends and although for the last ten years of his life he was in very failing health he was always cheerful and busy He never spared himself and as his limitations became more marked he never lost his pluck and remained to the last an example and [illegible] to his friends He leaves a widow and four children his second son having been killed in action at [illegible]

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily declined from 1778 to 1313 in the 10 preceding weeks, further fell to 1302 on Saturday last, 149 new cases were admitted during the week, against 161, 163, and 166 in the three preceding weeks These hospitals also contained on Saturday last 1286 cases of diphtheria, 213 of whooping-cough 173 of measles 33 of enteric fever, and 1 of small pox. The 905 deaths from all causes in London were 63 fewer than in the previous week, and corresponded to an annual death rate of 10·9 per 1000 The deaths referred to diseases of the respiratory system, which had been 128, 117, and 130 in the three preceding weeks, rose to 137 in the week under notice

Of the 4095 deaths from all causes in the 96 towns, 128 resulted from violence, 313 were the subject of coroners' inquests, and 1211 occurred in public institutions The causes of 37, or 0 9 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, and in 74 other smaller towns Of the 37 uncertified causes, 7 were registered in Liverpool, 6 in Birmingham, 4 in Stoke on Trent 3 each in London and South Shields, and 2 each in St Helens and Gateshead

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2,372,000 persons at the middle of this year, 1132 births and 555 deaths were registered during the week ended Saturday, June 17th The annual rate of mortality in these towns, which had been 14 4, 14 7, and 12·9 per 1000 in the three preceding weeks, fell to 12 2 per 1000 in the week under notice During the first 11 weeks of the current quarter the mean annual death rate in these towns averaged 15 7, against 14 7 per 1000 in the large English towns Among the several towns the death rate last week ranged from 4 0 in Hamilton, 5 7 in Clydebank, and 6 2 in Ayr, to 13 8 in Glasgow, 16 1 in Greenock and in Motherwell, and 18 4 in Falkirk

The 555 deaths from all causes were 31 less than the number in the previous week, and included 39 which were referred to the principal epidemic diseases, against numbers declining from 66 to 52 in the three preceding weeks Of these 39 deaths, 17 resulted from measles, 7 from whooping-cough, 6 from scarlet fever, 5 from diphtheria, and 4 from infantile diarrhœal diseases, but not one from enteric fever or from small pox. The annual death rate from these diseases was equal to 0·9, against 0 7 per 1000 in the large English towns The deaths attributed to measles, which had been 34, 26, and 13 in the three preceding weeks, rose to 17, which were all recorded in Glasgow The deaths referred to whooping cough, which had been 9, 10, and 9 in the three preceding weeks, fell to 7, of which 5 occurred in Glasgow The fatal cases of scarlet fever, which had been 3, 5, and 10 in the three preceding weeks, fell to 6, and were all recorded in Glasgow The 5 deaths attributed to diphtheria included 2 in Glasgow, and were slightly below the average in the earlier weeks of the quarter The 4 deaths from infantile diarrhœa comprised 3 in Glasgow, and 1 in Edinburgh

The deaths referred to diseases of the respiratory system, which had been 101, 83, and 92 in the three preceding weeks, fell to 75 in the week under notice and were 18 below the number in the corresponding week of last year The deaths from violence numbered 14, against 34 and 20 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the registration area of Dublin 203 births and 140 deaths were registered during the week ended Saturday, June 17th The annual rate of mortality, which had been 19 8 19 3 and 17 7 per 1000 in the three preceding weeks, rose to 17 8 in the week under review, against corresponding rates of 10 9 and 13 8 per 1000 in London and Glasgow respectively

Of the 140 deaths at all ages, 26 related to infants under 1 year and 31 to persons aged 65 years and upwards The deaths referred to the principal epidemic diseases numbered 7 and comprised 3 from infantile diarrhœa, 2 from diphtheria and 1 each from measles and scarlet fever The causes of 9 deaths were uncertified and 2 others were the subject of coroners' inquests while 63 or 45 per cent, of the total deaths occurred in public institutions

During the same period 163 births and 117 deaths were registered in the city of Belfast The deaths corresponded to an annual rate of 15 1 or 1 2 per 1000 less than in the previous week, and included 15 of infants under 1 year and 22 of persons aged 65 years and upwards The deaths from the principal epidemic diseases numbered 9 against 6 in the previous week and included 3 from whooping-cough and 2 each from measles scarlet fever and infantile diarrhœa The causes of 4 deaths were uncertified and 2 others were the subject of coroners' inquests, while 34 of the total deaths occurred in public institutions

Correspondence.

"Audi alteram partem."

REPORT OF THE COMMISSION ON THE DECLINING BIRTH-RATE

To the Editor of THE LANCET

SIR,—While agreeing to the facts set out in this report, most men and women who recognise the extreme importance of the subject will desire a clearer statement of the logical conclusion to which these facts and a knowledge of the world clearly lead While precluded by foreign service from assisting in the preparation of this report, I beg to suggest the inevitable conclusion

(*a*) The evidence shows that the decline of the birth rate mainly depends on three coexisting factors—knowledge and availability of methods for restriction of the family and intention to use them No study of causes or proposals for dealing with the problems involved is of value unless equally applied to each of these factors

(*b*) The evidence suggests that the knowledge and availability were first developed among nations in the most quick witted and logical—namely in France, and, subject to religious and moral scruples, have in the United Kingdom been first developed in the best-informed and well to-do classes The decline is then likely to continue, if other conditions remain unchanged, until these methods become known by, and available to, all classes This extension seems certain The intention to use these methods, however, is likely to be lacking among those who are least provident and slowest-witted

(*c*) The intention to limit the family depends mainly on competition, and this, again, on the law of supply and demand and on freedom of communications, both in material and non material aims, selfish and public-spirited The two chief forms of competition affecting the welfare of nations are the military and economic. The first passes, for a time, with the advent of peace The second has been the basis of human progress in Western communities during the past century It is not the only basis of progress It is directly combated by the protective policy of organised labour and by the fiscal policy of many countries

(*d*) The countervailing forces capable of development are (1) reduction of the standard of luxury in all classes, (2) reduction of competition, especially in the young, as a means of comparing attainments, (3) recognition of the need for population, (4) general encouragement of natural instinct and expression as opposed to deliberate intention, (5) a change of public opinion in all classes regarding the honour of successful child bearing and child rearing, especially as woman's form of active service to the State, (6) public recognition of this service in the terms given to public servants of all ranks comparable to the separation allowance given to the rank and file of the navy and army in the present war, (7) encouragement of marriage amongst all public servants including those serving abroad, (8) outspoken leadership on the part of all public men and women especially in the schools in recognition of this prime function of citizenship, (9) encouragement of earlier marriage, (10) limitation as far as possible, of female responsibilities and duties to the home, direction of female education accordingly subject to the numerical disparity in the Empire as a whole between the sexes, maintenance of the family unit under the single headship of the man

(*e*) Evidence suggests that if any limitation of family be sanctioned there would be little actual adherence to any moral distinction between mechanical and non mechanical active and passive methods for the avoidance of conception

(*f*) Population is equally required for the furtherance of any form of activity material mental or spiritual, and is an essential factor in the strength whether in quality or degree of any community in face of competition

(*g*) The practical steps required to give force to these considerations would be best considered by a Departmental Committee and by *ad hoc* committees to be appointed by the responsible bodies of religious communities and other leading interests concerned.

I am Sir yours faithfully
F E FREMANTLE
Lieutenant Colonel R A M C (T)

B E F May 11th 1916

OBITUARY OF THE WAR

ARCHIBALD ALEXANDER MORISON, M B , CH B EDIN ,

SURGEON ROYAL NAVY

Surgeon A. A Morison, who was lost on board H M S *Indefatigable* in the naval action on May 31st at the age of 29 years, was born in Bengal, where his father was a medical missionary He was educated at George Watson's College and the University, Edinburgh, where he was Beaney prizeman in surgery and anatomy and obtained a medal in anatomy After graduation he held resident posts at the Royal Maternity Hospital and the City Hospital, Edinburgh, as well as at the Brook Hospital, Woolwich At an early stage of the war he offered his services and became a temporary surgeon in the navy, attached to H M S *Indefatigable* until his death

Surgeon Morison was well known in Scotland as a footballer He was an invaluable full back for the successful Watsonian XV and in recent days was a prominent player in naval matches A medical friend writes of him ' What Morison was on the football field—resolute resourceful, reliable and reckless ever of his own safety—he proved to be in his ordinary walk of life Calls of duty and honour, and they were various, were straightway answered with a natural self effacement If his friends relied on him he did not fail them '

CYRIL OSCAR HOWE JONES M R C S ENG ,

SURGEON ROYAL NAVY

Surgeon C O H Jones who was killed on board H M S *Invincible* in the recent naval action at the age of 25 years was educated at Walthamstow Technical School and London University, entering the medical school of Middlesex Hospital He afterwards won an entrance scholarship to St Thomas s Hospital, where he completed his studies winning prizes in forensic medicine public health, and insanity After qualifying in 1915 he was appointed house physician but resigned in August on obtaining a commission in the navy as surgeon to H M S *Invincible* on which he remained until his death

Surgeon Jones was a good all round sportsman but it was at Association football that he really excelled He played consistently for his hospital team during four exceptionally successful seasons and was also a regular member of the United [illegible] team In 1913 he gained his amateur International cap by representing Wales against England in [illegible] Internationals A medical colleague writes [illegible] him His true sense of duty his untiring energy [illegible] and his hearty disposition endeared him to all his comrades His death has robbed many of a sincere friend, and deprived his profession of one of its most ardent members " Surgeon Jones was unmarried

GEORGE BASSETT MOON, L R C P & S EDIN ,

SURGEON ROYAL NAVY

Surgeon G B Moon, who was killed in action in the North Sea on May 31st was 30 years of age and the son of Mr George D Moon, L R C P Edin , police surgeon to the county borough of Derby He was educated at Derby Grammar School and matriculated at Birmingham University, studying medicine there and at Edinburgh After qualifying in 1909, he was appointed assistant medical officer to the Kent County Asylum at Barming Heath remaining there for five years until the outbreak of war, when he applied for a commission in the navy, and was gazetted as temporary surgeon in December, 1914

Apart from his medical work Surgeon Moon took a great interest in athletics He was a keen, all round sportsman, representing his University at Association football, and at the asylum was a prominent member of the cricket eleven

His chief writes of him "He was sympathetic and unfailing in his attentions to all under his care, and his death caused great regret to both patients and staff of the asylum where he had spent the major portion of his short medical career "

HUGH FRANCIS MCNALLY, M B B CH BELF ,

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Surgeon H F McNally, who was on H M S *Hampshire* which sank on June 5th was 24 years of age and the son of Mr Nicholas McNally of Portaferry, co Down He was educated at Conway Street National School where his father was principal and studied medicine at the Queen s University of Belfast qualifying in 1915 Whilst at college he was an active member of the Officers Training Corps, and was later in charge of the Belfast Regiment of the National Volunteers with the rank of lieutenant colonel Resigning his commission on obtaining his degree he made two voyages as a ship s surgeon and then obtained a temporary commission in the navy Surgeon McNally had a natural aptitude for literature and natural history excelling at these rather than at field sports A friend writes of him His character was of the [illegible] and he had a happy knack of making [illegible] friends wherever he went His intercourse with fellow students and patients was characterised by courtesy and kindliness

The War.

THE CASUALTY LIST

THE following names of medical officers appear among the casualties announced since our last issue —

Died

Lieutenant E H Flanigan, R A M C, was educated at Dublin and qualified in 1903 Before joining the R A.M C he was in practice in Southern Rhodesia

Wounded

Captain C H Maskew, R A M C
Captain J H F Perras, Canadian A.M C, attached to the Canadian Infantry
Captain W L Shannon, Canadian A.M C, attached to the Canadian Infantry
Captain N MacLeod, Canadian A M C

Previously reported believed Prisoner at Kut el Amara, now reported not a Prisoner

Captain R K Mallam, R A M C

THE VICTORIA CROSS

The King has conferred the Victoria Cross upon—

Captain John Alexander Sinton, I M S

For most conspicuous bravery and devotion to duty

MENTIONED IN DESPATCHES

The names of medical officers who have been brought to notice for gallant and distinguished conduct in the field are mentioned in a despatch received from General Sir Douglas Haig, G B, Commander of the British Forces in France, dated April 30th, 1916 —

Staff &c.

Bt Col M H G Fell R.A.M C Maj A. C Geddes C T C Col J J Gerrard Col W T Swan C B A.M S Surg Maj R M Cowie 1st Life Guards Surg Capt E J H Luxmoore 2nd Life Guards Maj G W K. Crosland (combatant) and Lt-Col (Hon Col) Sir J R A. Clark Bart C B St. John Amb Brigade

Army Medical Service General Headquarter Staff &c

Surg Gen R. H S Sawyer C M G Col H. Carr C B Col W L Gray Col C R. A. Julian, C M G Col C J Macdonald Col F J Morgan Col F R. Newland Col H I Pocock Col H N Thompson D S O Col S Westcott C.B C M G Col J B Wilson Col R. W Wright Lt. Col (temp Col) F C Buswell Lt. Col. (temp Col) H. N Dunn R A.M C Lt-Col (temp Col) J D Ferguson D S O R A.M C Lt Col J V Forrest, R.A.M C Lt Col J S Gallie R.A.M C Lt.-Col (temp Col.) F W Hardy R A M C Lt Col H. C R Hime R.A.M C Lt. Col (temp Col.) E. W Slayter R.A.M C Lt Col (temp Col) H S Thurston C M.G R.A.M C Maj H H A. Emerson R A.M C Maj L R V Foster R.A.M C Maj W R P Goodwin R.A M.C Maj P H Henderson R.A.M.C; Maj D O Hyde R.A.M C Maj E T Potts D S O R.A.M C Capt A. H Heslop R.A.M C Capt W B Purdon R A.M C Temp Col. A. Fullerton and Col A. L. F Bate

Royal Army Medical Corps

Lt. Col E A. Bourke Lt-Col. A. W N Bowen Lt. Col O W A. Elsner Lt. Col J G Gill Lt Col J Grech Lt Col H Hewetson Lt.-Col W J Taylor Lt.-Col A. G Thompson Temp Lt Col G N Stephen Maj (temp Lt.-Col.) J H Brunskill Maj B S Bartlett Maj R A Bryden Maj T S Coates; Maj (temp Lt Col) R F M Fawcett Maj A. O H Gray Maj (temp Lt Col) R. C Hallowes Maj (temp Lt. Col) W J S Harvey Maj A. J Hull Temp Maj T C L. Jones Maj W D C Kelly Maj P J Marett, Maj (temp Lt.-Col) W G Maydon Maj (temp Lt Col.) A C Osburn Maj H G Pinches Maj (temp Lt.-Col) A. McG Rose Maj H. G Smeeth (Spec Res) Temp Maj A. E. Webb-Johnson Maj C F White Maj J H R Winder Maj (temp Lt-Col) B F Wingate Capt. W J Adie (Spec Res) Capt W M Biden (Spec Res) Capt S McA. F Cesari (Spec Res) (killed) Temp Capt A. B Cheves Capt D B Chiles Evans (Spec. Res) Temp Capt H J Couchman Capt. G H Dive Capt D Dougal (Spec. Res) Capt. T I Dun (Spec. Res) Capt. G B Edwards Temp Capt. R. D Fitzgerald Temp Capt C Y Ford Temp Capt J H Fletcher Capt W R Gardner (Spec. Res); Temp Capt A. C Giles Temp Capt. A S Glynn; Capt. R. A. Greenwood (Spec Res) Temp Capt. S Gurney Dixon Temp Capt A. C Hancock Temp Capt T L Hardy Temp Capt H M Hart Smith Temp Capt. C Kingston; Temp Capt E C Lindsay Capt. A. T Logan (Spec Res) Temp Capt. N P L Lumb Temp Capt. J B McCabe Temp Capt D J McRae Capt. D C Macdonald (Spec Res.) Temp Capt E L. Mackenzie Temp Capt. F S Marshall Capt. W C B Meyer (Spec. Res.) Capt W A. Miller (Spec Res) Temp Capt D C Monro Capt R Montgomery (Spec Res) (killed) Temp Capt H Moore Temp Capt. J W Pell Capt A. C Perry (Spec. Res) Temp Capt K. Playfair Capt L. T Poole Capt H C D Rankin Temp. Capt E L. Reid Capt. A L Robertson (Spec. Res) Temp Capt H. H Robinson Capt H E Rose (Spec. Res) Capt J Rowe Capt. W C Smales Temp Capt W A. Sneath Capt. H N Stafford (Spec Res.) Temp Capt J I Stewart Capt A. D Stirling Temp Capt. A Stokes Capt G P Taylor Temp Capt. W A Taylor Capt A. M Thomson (Spec Res) Capt. P Thornton (Spec Res) Temp Maj J C Webb Temp Capt T H Whittington Temp Capt C McM Wilson Capt J L Wood Temp Capt. E White Temp Capt D H D Wooderson Temp Capt P R. Woodhouse Capt W G Wright Temp Lt F J Blackley Temp Lt W E. Burrows Temp Lt A. J W Cunningham Temp Lt A J Cunningham Temp Lt J P Munson Temp Lt E T Pinhey Temp Lt. C L G Powell Temp Lt R R Scott Temp Lt H D Smart and Temp Lt T Strain

Royal Army Medical Corps (Territorial Force)

Bt Col and Brig Surg C E Harrison C V O (ret pay) Lt Col J Clay Northumb Casualty Clearing Station Lt Col J McKinnon W Rid Fd Amb Lt Col W P Peake N Mid Casualty Clearing Station Maj (temp Lt. Col) R M West N Mid Fd Amb Lt Col E A. Wraith N Mid Fd Amb Surg Maj A W Cuff W Rid Brig R F A Capt (temp Maj) F F Finch W Rid Fd Amb Lt (temp. Maj) A C F Turner N Mid Fd Amb Capt. H M Calder Lond. Fd Amb Capt (temp Maj) W Cowie Lond Fd Amb Cap (temp Lt. Col) H K Dawson Lond Fd Amb Capt N A Dore Lond San Serv Capt. S S Greaves W Rid Fd Amb Capt S J C Holden W Lanc Fd Amb Capt. M P Inglis (Spec. Res) Capt. A. E Ironside Lond Fd Amb Capt R Jacobs Lond San Serv Capt G G Johnstone Lond San Serv Capt O D Law attached S Lanc R Capt J P Mathews W Rid Fd Amb Capt J Miller N Mid Fd Amb Capt F J J Ney Lond San Serv Capt H G A. Pearson Lond San Serv Lt. (temp Capt) J E Sandilands Lond Fd Amb and Capt. G A Sutcliffe Northumb Casualty Clearing Station

Canadian Army Medical Corps

Lt Col (temp Col) G La F Foster C B Lt Col (temp Col) J T Fotheringham Lt Col R P Campbell Maj J A Amyot Maj A C Rankin Maj A E Snell Capt. J A Crozier Capt H B Jeffs Capt J S Jenkins and Capt. G C Hale

Indian Medical Service

Maj E A C Matthews V H S Capt R I Binning Capt. W B A. K Cullen Capt P K Gilroy and Capt J G B Shand

Indian Subordinate Medical Department

No 1289 1st Class Sub-Asst. Surg Kunniyal Raman Asst Surg W E Moody 2nd Class Sen Sub-Asst. Surg Nabi Ahmad Sidiqi No 3 2nd Class Sub-Asst Surg J Rafiud Din Khan; and 3rd Class Sub Asst. Surg E J Pell

In despatches received from General Sir John Maxwell and Major General Sir A. Wilson, dealing with the military operations in Egypt from November, 1914, to March, 1916 reference is made to the work of the 137th Field Ambulance —

> *Major R M Knox I M S and his officers were energetic and* expeditious in the disposal of the large number of wounded on their hands

The names of the following medical officers are mentioned —

Staff &c.

Lt.-Col H Burden C I E I M S; Maj J D Graham I M.S Capt S W Jones I M S Lt-Col (temp Col) W H B Robinson, C B I M S Lt. Col Sir D Semple Dir Gen of Dept of Pub Health Dr J Cresswell i/c Govt Hosp Suez; Dr W C Hayward i/c. Govt Hosp, Port Said Maj G W Heron R A.M C Health Off Suez Canal Area Dr L. Cambolin Med Off Suez Canal Co Ismailia; Lt. Col E P Sewell, R.A.M C A D M S Surg Maj and Hon Surg Lt Col R Bullock T D Surg-Gen R W Ford C B D S O D M S Col T B Beach A M S Surg Maj B. Pares D S O Maj H V Bagshawe R A M C A D M S Lt. Col Sir J Rogers, K C M G D S O A M S Maj C S Spong D S O Local Maj W Hastings Local Maj E V Oulton Local Maj A. F MacCallan Local Maj W Hayward Local Maj O Ekins; Local Maj L. P Phillips H V Keatinge C M G J E Cresswell Armand Ruffer C M.G A. Granville

Medical Services A M S and R A M C

Lt Col W G Pridmore. C M.G I M S No 5 Ind Genl Hosp; Lt Col J B Smith I M S Bombay Pres. Genl Hosp Lt Col F J Lumsden I M S No 8 Ind Genl Hosp Cairo Maj T B Kelly I M.S 106th Ind Fd Amb Maj W R Battye, D S O I M S 106th Ind Fd Amb Maj W D Ritchie I M S Capt R H Bharucha I M S; Maj J N Walker I M S 108th Ind Fd Amb Capt C H Fielding I M S., 89th Punjabis Col C W R Healey Col F W G G Hall Temp Col F D Bird Lt. Col O L. Robinson Lt Col H F R. James, C B Maj J M Darling Maj A N Fraser Maj C P Thomson Temp Maj C C Choyce Temp Maj W T Prout C.M G Capt R E Todd Capt. H W Carson Capt. E C Lambkin Capt W W Treves Capt O Robb; Capt. S W M Jones (Spec. Res) Capt E J Bradley (Spec Res); Temp Capt. G Blacker Temp Capt S A Boyd Temp Lt J G Willmore Lt. Col A H Lister 1st Scot Gen Hosp; Capt E W H Groves 2nd Southern Gen Hosp Capt D G Kennard Capt. C Carr 1st Scot. Gen Hosp Capt W R Douglas E. Lancs Divl Fd Amb Lt. (temp Capt) G R Rickett Lt-Col (temp Col) C Stonham C M G (deceased) Lt-Col. (temp Col.) A H Tubby; Maj (temp. Col.) A. W Mayo Robson C V O Capt (temp Col) N W Low Capt (temp Col) Sir V A. H Horsley Lt. Col A R. Tweedie Lt Col T H Forrest Maj C P Thomson; Capt. W A Brechin Capt G E J A. Robinson Maj (temp Lt. Col) F H Francis

Australian and New Zealand Forces

Maj and Hon Lt Col. J G Tedder Australian A M C Col (Hon. Surg Gen) W D C Williams, C B Lt. Col G T Hall N Z A M C Temp Lt J W O Brien 1st Aust Div Train

Canadian A M C

Lt Col F Hetherington C M G L Col H R. Duff (deceased) Capt G E Kidd

In a despatch received from Lieutenant General Smuts Commander in Chief of the East African Force dated April 30th 1916, and dealing with the British campaign in East Africa, the following reference is made —

> Exceptionally heavy work has been thrown upon medical officers and personnel All wounded have been treated and evacuated expeditiously and the number of sick who passed daily through the hands of the medical authorities, more especially since the cessation of active operation has been very great Great credit is due to Surgeon General G D Hunter C M G D S O and his assistants

OBITUARY OF THE WAR

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2. *Small special classes*.—These are subdivided into the following: (*a*) Quadriceps, (*b*) tibials, (*c*) shoulder girdle, (*d*) back and elbow, (*e*) wrist, and the exercises most suitable to each are employed.

3. *Large gymnasium class*.—All the ordinary apparatus found in a fully equipped gymnasium is available and employed.

4. *Swedish exercises class*.—This class is as far as possible held in the open on a large cement quadrangle, which permits it being available almost every day. A careful record is kept of all absentees, and the number of wilful absences is less than ½ of 1 per cent., a remarkable tribute to the keenness of the patients.

In addition, marching parades are held daily, whereby advanced patients are marched definite distances under proper military discipline. As a corollary, special apparatus is being constructed for the training of men with artificial limbs, such as gangways which can be lifted and lowered and on which obstacles at varying heights can be placed at will.

This brings us to a consideration of the so-called "general" group. It may be roughly subdivided into (1) Hospital duties, (2) arts and crafts, (3) entertainments, (4) games.

1. *Hospital duties*.—These include clerical work (very suitable for shock cases), fatigues such as polishing brass and linoleum, dusting, sanitary, kitchen, post-office (very suitable for arm cases), dining room and ward work, telephones, lifts, ambulance orderlies (very suitable for leg cases), outside guard, town military police, patients' parades (very suitable for non-commissioned officers).

2. *Arts and crafts*.—Machine shops: These are capable of employing 24 men. We are now manufacturing practically all our own splinting apparatus, doing all repair work in connexion with our motor transport, making many small things required daily in some part or other of the hospital. As subsidiaries at least twelve patients are employed in electrical repairs, plumbing and tinsmithing. Forge: This employs four men, who work in connexion with machine shop. Carpentry shop: This employs at present twelve men who are all kept fully occupied by the numerous bits of work required in a hospital which has been enlarging steadily by the addition of new buildings. We hope soon to have a full equipment, power driven, for wood turning, fret sawing, and cabinet making of all kinds. When this is installed it is our intention to work along definite lines and we will thus employ a larger number of patients. Subsidiaries, such as painting, kalsomining, and decorating, employ another eight patients. Printing shop: This employs six men; all special forms required for hospital use are printed here. In addition a small newspaper of four pages is printed weekly under the supervision of an editorial and business staff, the former composed of representatives from staff, personnel, and patients. Boot shop and saddlery: This employs six men who do all ordinary repairs and in addition make the many necessary modifications of boots required by the orthopædic surgeons and the strappings and linings of the various kinds of splints. Wood carving: This should employ at least 12 men, and will soon be actively going, as we now have an officer fully qualified in this special branch. Gardening: This employs 24 men, who are now busily occupied in preparing the grounds for potato and seed planting. Landscape gardening: This employs 12 men, who are employed in clearing grounds, laying walks, trimming shrubbery, and preparing grounds for various games.

3. *Entertainments*.—Through the kindness of the Canadian Red Cross Society in furnishing the instrument, an orchestra of 15 pieces has been formed, composed entirely of patients, and they have now appeared in public on several occasions with splendid success. Their efforts, combined with that of a minstrel troupe of about 20 patients, have been an important factor in dispelling the usual evening depression so noticeable in these cases. In addition, "amateur" nights are held once a week and have been the means of discovering much talent and producing great amusement amongst the patients themselves, who take full charge for the evening. One evening a week is devoted to the cinema, instructional and topical films being shown. The remaining evenings of the week are taken up by various concert companies from outside. In this way no evening of the week is without an entertainment of some kind, including Sunday, when a sacred concert is given usually by one of the neighbouring choirs.

4. *Games*.—All the ordinary indoor games are fully supplied in the recreation room, including billiard and bagatelle tables. On completion of the preliminary preparation of grounds, and with the approach of warmer weather, an [illegible] field will be devoted to tennis, croquet, bowls, and [illegible]. We are provided with sets of all these. A large [illegible] will be devoted to cricket, football, basket ball, and [illegible]. In addition three tennis courts are laid out on an [illegible] quadrangle in our [illegible] hospital [illegible] have been made [illegible] competitions [illegible] gratifying results.

Educational.—Each physical department is under a specially qualified man known as "Sergeant Instructor," and patients showing any special aptitude in any particular branch will be afforded every facility to qualify themselves.

A fully equipped miniature rifle range is installed in charge of a competent musketry instructor. Active rivalry between all the different wards has been initiated and fostered by means of a challenge cup, open to patients only, which is retained for one month by the winners, who also receive special prizes. A combined team has also been formed who compete against various outside rifle clubs. This has been the means of interesting a large number of patients and has been of great value in restoring their nerve and confidence, and we consider it one of our most valuable auxiliaries.

A large general library has been formed, catalogued, and is handled in a similar manner to public ones.

In conclusion, the results so far obtained have been distinctly gratifying, and with fuller knowledge and more comprehensive equipment they should be still further improved upon. Those who are discharged to duty are valuable to their regiments on their return because they are not novices in the art of war, but soldiers trained in the school of experience of modern warfare. Those discharged to light duty and as permanently unfit for further military service have received a partial training along whatever lines their own inclination lies, which will at least place them in a more favourable position to be of future value to their country, and demonstrates to their own satisfaction that they are not merely useless members of the community to which they belong.

MARYLEBONE MEDICAL WAR COMMITTEE.—A meeting of the registered medical practitioners of the borough of St. Marylebone will be held, by kind permission of the Royal Society of Medicine, in the Barnes Hall, 1, Wimpole-street, on Monday next, at 9 P.M., to elect a committee. The Provisional Committee not being a body elected to deal with the provisions of the Military Service Act, 1916 (Session 2), the Central Medical War Committee has directed that a local committee representing all the practitioners of the borough should be elected as soon as possible, so that it may obtain the necessary recognition from the Army Council. Nominations (with the signed consent of the nominee) must be sent to Mr. Charles Ryall, 62, Harley-street, chairman of the Provisional Committee, immediately, or they will not reach him, as is necessary, two days before the date of the meeting. It will be remembered that according to the Regulations for Professional Committees under the Military Service Acts, 1916 (THE LANCET, June 10th, p. 1195), the approval of the Army Council is necessary for the recognition of any Local Professional Committee appointed by the Central Committee.

AT a joint meeting of the Local Medical War Committee and the medical men of military age in the Southampton area the following resolution was adopted:—

> That this meeting considers that, judging by the position in Southampton, no more doctors can be spared unless the Government grants statutory powers to the Local Medical War Committee to mobilise the whole profession in each area to organise the work.

HOME FOR BLIND SAILORS AND SOLDIERS AT TORQUAY.—A house at Babbacombe, Torquay, has been given by Mr. and Mrs. D. Hooper as a hostel for blind sailors and soldiers. It was recently opened and 14 patients were admitted. There is accommodation for 16 cases.

THE LADY HARDINGE HOSPITAL AND INDIAN SOLDIERS' FUND.—A report by Lieutenant-Colonel F. F. Perry, C.I.E., I.M.S., the officer commanding on the Lady Hardinge Hospital at Brockenhurst, to which an introduction is supplied by Surgeon-General Sir Havelock Charles, G.C.V.O., is a document of considerable value, inasmuch as it forms a guide as to how a hospital for Indians in England should be managed. The hospital was opened in January, 1915, and closed its doors in March of this year, during which time 2629 men were admitted. The mortality rate (1·4 per cent.) was very satisfactory, as the hospital received the most serious cases, those less ill being sent to Brighton and Bournemouth Hospitals for Indians. The cost per bed, of which there were 520, was £1 17s. 4d. per week. The total expenditure from the opening to the closing of the hospital was £[illegible]. Interesting details as to diets are given in the report, which is well illustrated and contains a plan of the hospital. Although the hospital is closed the work of the Indian Soldiers' Fund [illegible] to expend in many directions [illegible]

PENRY GARNONS WILLIAMS, M R C S ENG ,

FLEET SURGEON ROYAL NAVY

Fleet Surgeon P G Williams, who was on board H M S *Hampshire*, which was lost on June 5th, was 42 years of age and the sixth son of the late Prebendary Garnons Williams, of Abercamlais, Brecon He was educated at Uppingham and St Thomas's Hospital Medical School, qualifying as M R C S in 1899 and entering the navy soon after He saw varied service in this country and on the North American and China Stations, receiving promotion to staff surgeon in 1907 and to fleet surgeon in 1915 A hospital contemporary writes of him "He was one of the very best of friends, kind hearted, and always anxious to do a good turn He loved his work and was conscientious and capable On land he was a keen sportsman, being especially fond of shooting and fishing" Fleet-Surgeon Williams married in 1907 Teresa, daughter of Walter Pike, of Plymouth, to whom and to his many friends we tender our sympathy

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AUXILIARY ROYAL ARMY MEDICAL CORPS FUNDS

A general meeting in support of the creation of these funds will be held at the Royal Army Medical College, Millbank, on Monday afternoon next, at 2 45 P M over which Sir Alfred Keogh will preside The Provisional Committee, whose names were notified in THE LANCET last week, have formulated a scheme the proposals under which will be discussed at the meeting It is suggested that two independent funds be formed, one, a benevolent fund for officers' orphans, the other a relief fund for the widows and orphans of the rank and file of the Auxiliary Royal Army Medical Corps Forces , and that both Funds, embracing the three auxiliary branches of the corps—namely, the Special Reserve, the Territorials, and those holding Temporary appointments—shall be administered by one committee representative of the three branches

Officers Benevolent Branch —The Provisional Committee recommend that this fund shall adopt the rules of the Royal Army Medical Corps Officers' Benevolent Society, as far as they are applicable The object of the Officers' Benevolent Branch will be to afford pecuniary assistance to the orphans of officers who have held commissions in the Auxiliary Branches of the Royal Army Medical Corps during this war and who are in necessitous circumstances, the more especially to assist in the education and the starting in life of the orphans The orphans of those officers who have been killed in action or have died of wounds received in action or of diseases caused by active service will have precedence , the orphans of officers who die after the war or after relinquishing their commissions and whose deaths are directly attributable to war service will have the second call on the Fund , and the orphans of officers who have held commissions during the war period but whose deaths are not directly attributable to war service will have the last claim , the orphans of officers who are non subscribers to the Fund not being of course, considered It is proposed to make all grants in the form of donations, all claims being decided annually on their individual merits , and as the Officers Benevolent Branch will have to be maintained entirely by subscriptions and donations, it is hoped that every officer of the Auxiliary Royal Army Medical Corps will at once become a subscriber and that those able to do so will give a donation to assist in starting the Fund The minimum subscription, it is proposed should be one guinea per annum

Relief Fund —The object of this Fund is to assist the widows and orphans of the rank and file of the Auxiliary Branches of the Royal Army Medical Corps, and it will be worked as far as possible, on the lines of the General Relief Fund of the Royal Army Medical Corps As the maintenance of this Fund will have to depend chiefly, if not entirely, on donations and grants and as on demobilisation all grants from regimental institutes will naturally cease the Provisional Committee consider that an endeavour should at once be made to raise a large sum of money so as to place the Fund in receipt of an income from investments

Loan Fund —At a meeting of the Provisional Committee held on June 15th it was resolved —

> To recommend the general meeting to appoint a committee to report to a further meeting on the possibility of the establishment of a Loan Fund to help medical officers of the Auxiliary Forces who are in temporary difficulties on returning to their civil practices

This proposal will also be discussed

PHYSICAL TREATMENT AT THE GRANVILLE CANADIAN SPECIAL HOSPITAL

Lieutenant-Colonel L Watt, of the Canadian Army Medical Corps, has sent us the following interesting report on the physical treatment of disabled soldiers and some of its results at the Granville Canadian Special Hospital —

The position of the Canadian Expeditionary Force is an anomalous one in that, as far as Canada is concerned England is as much overseas as France This has caused difficulty in regard to the treatment of cases requiring prolonged hospital care, with the expectation of these being eventually made fit for service again It did not seem wise to return these men to Canada on account of the expense and also of their loss to the Expeditionary Force, and for this reason it became imperative to establish a special hospital for their treatment, which was opened on Nov 22nd 1915 This treatment naturally falls into two distinct lines, the one "Medical," the other "Physical," and it is with the latter that this report has to deal

The physical treatment of patients is what one might term the reverse side and the medical treatment the obverse side , each is incomplete without the other, but when combined they unite to form a more or less perfect result depending upon the amount of damage previously incurred in wear and tear In a special hospital of this kind devoted almost entirely to organic and functional nerve lesions and nerve diseases of all kinds and orthopædic treatment and surgery the patients are, even before arrival, all more or less hospitalised They have spent weeks, and even months in one or more hospitals , they are tired of the unaccustomed irksome restrictions the hospital uniform, the enforced temperance, and, above all, the wearisome idleness As the restrictions of military discipline must be maintained at all costs, our first aim is to make the patient capable of doing *something* as quickly as possible

During his period of "passive" treatment the patient is in every way made to feel that he is here for one definite purpose —i e , to get well He is first thoroughly examined by his own medical officer then sent to our specialist board who in consultation with the medical officer, re examine him and prescribe the treatment most suitable for his condition , this may be massage electricity, ionization radiant light and heat, arc light bath high frequency auto condensation, electric water bath, Turkish vapour bath, "eau courante" baths, or plunge, shower, and douche baths Approximately 10 000 treatments were given in the month of March in this department alone He is sent back to this board at regular intervals until judged to be fit for "light duty" Everything that can possibly help to elucidate his condition is available These include X rays bacteriology and pathology, and all apparatus for electrical reactions, each department being under a trained specialist The patient is kept as much as possible in the open within certain prescribed areas in order to get the maximum of sunshine and fresh air and every evening a concert is given in the large recreation hall

With the initials 'L D' on his case sheet his opportunity has arrived He is given some definite work suitable to his condition and allowed to wear 'khaki,' with of course the blue armlet sewn on the sleeve to indicate that he is still a patient This wearing of 'khaki' is considered a great privilege and carries with it certain definite advantages—greater freedom in leaving hospital precincts and longer hours of 'pass' If the privilege is abused the patient is returned to "blues" immediately Unquestionably this is an important factor in rapidity of cure men who were previously listless and chronic grumblers quickly become keen and enthusiastic It is to be noted that daily treatments are continued throughout the whole of a man's stay in hospital whether on light duty or not

Our cases now naturally fall into two main classes—*gymnastic and general* The gymnastic cases are transferred to a special wing and are under the direct supervision of the surgeon in chief To assist him four instructors are employed divided as follows (1) individual cases (2) small special classes (3) large gymnasium class (4) Swedish exercise classes The patients naturally graduate from one class to another as their powers increase

1 *Individual cases* —Special apparatus of various kinds is provided for the exercise of all joints and muscles of the trunk upper and lower extremities These exercises are all of the 'active' type and each case is personally supervised by the instructor

2. *Small special classes* —These are subdivided into the following (*a*) Quadriceps (*b*) tibials, (*c*) shoulder girdle (*d*) back and elbow, (*e*) wrist, and the exercises most suitable to each are employed

3 *Large gymnasium class* —All the ordinary apparatus found in a fully equipped gymnasium is available and employed

4 *Swedish exercises class* —This class is as far as possible held in the open on a large cement quadrangle which permits it being available almost every day A careful record is kept of all absentees and the number of wilful absences is less than ¼ of 1 per cent a remarkable tribute to the keenness of the patients

In addition marching parades are held daily whereby advanced patients are marched definite distances under proper military discipline As a corollary special apparatus is being constructed for the training of men with artificial limbs such as gangways which can be lifted and lowered and on which obstacles at varying heights can be placed at will

This brings us to a consideration of the so-called "general" group It may be roughly subdivided into (1) Hospital duties, (2) arts and crafts (3) entertainments, (4) games

1 *Hospital duties* —These include clerical work (very suitable for shock cases) fatigues such as polishing brass and linoleum, dusting sanitary kitchen post-office (very suitable for arm cases) dining room and ward work, telephones lifts ambulance orderlies (very suitable for leg cases) outside guard, town military police patients' parades (very suitable for non commissioned officers)

2 *Arts and crafts* —Machine shops These are capable of employing 24 men We are now manufacturing practically all our own splinting apparatus doing all repair work in connexion with our motor transport making many small things required daily in some part or other of the hospital As subsidiaries at least twelve patients are employed in electrical repairs plumbing, and tinsmithing Forge This employs four men, who work in connexion with machine shop Carpentry shop This employs at present twelve men who are all kept fully occupied by the numerous bits of work required in a hospital which has been enlarging steadily by the addition of new buildings We hope soon to have a full equipment power driven for wood turning fret sawing and cabinet making of all kinds When this is installed it is our intention to work along definite lines and we will thus employ a larger number of patients Subsidiaries, such as painting kalsomining and decorating employ another eight patients Printing shop This employs six men all special forms required for hospital use are printed here In addition a small newspaper of four pages is printed weekly under the supervision of an editorial and business staff the former composed of representatives from staff personnel and patients Boot shop and saddlery This employs six men who do all ordinary repairs and in addition make the many necessary modifications of boots required by the orthopædic surgeons and the strappings and linings of the various kinds of splints Wood carving This should employ at least 12 men and will soon be actively going as we now have an officer fully qualified in this special branch Gardening This employs 24 men who are now busily occupied in preparing the grounds for potato and seed planting Landscape gardening This employs 12 men who are employed in clearing grounds laying walks trimming shrubbery and preparing grounds for various games

3 *Entertainments* —Through the kindness of the Canadian Red Cross Society in furnishing the instruments an orchestra of 15 pieces has been formed composed entirely of patients and they have now appeared in public on several occasions with splendid success Their efforts combined with that of a minstrel troupe of about 20 patients have been an important factor in dispelling the usual evening depression so noticeable in these cases In addition "amateur" nights are held once a week and have been the means of discovering much talent and producing great amusement amongst the patients themselves who take full charge for the evening One evening a week is devoted to the cinema instructional and topical films being shown The remaining evenings of the week are taken up by various concert companies from outside In this way no evening of the week is without an entertainment of some kind including Sunday when a sacred concert is given, usually by one of the neighbouring choirs

4 *Games* —All the ordinary indoor games are fully supplied in the recreation room including billiard and bagatelle tables On completion of the preliminary preparation of grounds and with the approach of warmer weather an [illegible] field will be devoted to tennis croquet bowls and [illegible] We are provided with sets of all these A larger [illegible] will be devoted to cricket football base ball and push [illegible] In addition three tennis courts are laid out on an [illegible] quadrangle in our [illegible] hospital [illegible] have been made [illegible] competitions [illegible] affairs

Educational —Each physical department is under a specially qualified man known as "Sergeant Instructor," and patients showing any special aptitude in any particular branch will be afforded every facility to qualify themselves

A fully equipped miniature rifle range is installed in charge of a competent musketry instructor Active rivalry between all the different wards has been initiated and fostered by means of a challenge cup open to patients only, which is retained for one month by the winners, who also receive special prizes A combined team has also been formed who compete against various outside rifle clubs This has been the means of interesting a large number of patients and has been of great value in restoring their nerve and confidence, and we consider it one of our most valuable auxiliaries

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PHYSICAL CLINIQUE FOR WOUNDED AND DISABLED SOLDIERS —This clinique is about to be opened at 126, Great Portland street, W The treatment, which is to be free of charge, will be under the direction of an honorary medical and surgical staff In addition to the more familiar physical remedies (hot-air and electrical baths, douches, massage, and manipulation), the clinique is furnished with whirlpool baths for the local treatment of stiff and disabled limbs, and with a complete series of apparatus for mechanical treatment Members of the medical profession are invited by the committee and medical staff to view the clinique on Monday, Tuesday, and Wednesday, June 26th to 28th. Cases will be received for treatment on and after Monday, July 3rd, at 2 30 P M The list of the honorary medical and surgical staff is as follows —Consulting Physicians Sir Thomas Barlow and Sir Lauder Brunton Consulting Surgeons Sir Rickman Godlee, Sir Alfred Pearce Gould, and Mr Wilfred Trotter Physicians Sir John Collie, Dr Hinds Howell Dr Campbell McClure, and Dr Fortescue Fox. Surgeons Mr Jackson Clarke, Mr Laming Evans, and Mr Lawrie McGavin

THE HOSPITAL SAINT-RAMBERT AT LYONS —The military hospital Saint-Rambert maintained by the Wounded Allies Relief Committee has been doing valuable work since its inauguration last month The hospital, which was formerly known as the Lycée Saint-Rambert, is beautifully situated in a wooded park overlooking the Saone and stands on a high level, affording a magnificent view of the country around The wards are large, light, and airy, and will accommodate 400 patients, and some of the wounded from Verdun are now under treatment there The Saint Rambert staff consists of two English surgeons, a colonial lady house surgeon, fully trained nurses, and a certain number of V A.D 's The committee has spent a considerable sum on improving the hygienic arrangements of the building, equipping an operating theatre, and providing an X ray outfit

RELIEF FOR WOUNDED SERBIAN SOLDIERS —For the relief of sick and suffering Serbian soldiers the Wounded Allies Relief Committee has shipped to Corfu quantities of hospital stores of all kinds that are urgently needed both by the Committee s own hospital staff at Corfu and by the Serbian Red Cross Society The goods despatched include 4 bales, each containing 100 pairs of sheets, thousands of roller bandages, many tailed bandages, and swabs, quantities of wool, 13 pairs of operating stockings hundreds of splints 24 pillows, 8 pneumonia jackets, 6 leg sets, and numerous packages of drugs and other hospital requisites, mosquito netting, clothing, lamps, candles, and so on

A USEFUL WAR-TIME DIRECTORY —The Women's Emergency Corps and Imperial Health Association are to be congratulated on the issue to the public in pamphlet form of the list which these two bodies have compiled for their own use of societies engaged in war work The societies are given in alphabetical order together with addresses and brief indications of their work, and the guide will be found a valuable help to those who wish to know what is being done in the different departments of war work and the societies who are responsible for doing it The price of the directory is 6*d* and it can be obtained at the Women s Imperial Health Association 7, Hanover square, W , or at the Women's Emergency Corps 15 York place Baker street W

WOODCOTE PARK CONVALESCENT CAMP, EPSOM —Owing to the energetic work of the commander of this camp Surgeon Lieutenant-Colonel C R. Kilkelly C M G M V O, the inmates, some 4000 have been provided with every possible means of suitable recreation. Of the eight divisions into which the camp is divided, four have been allotted to British troops two to Canadian troops and one each to men of the Australian and New Zealand contingents The secretary of the recreation committee is Lord Killanin

Medical News.

CENTRAL MIDWIVES BOARD —Special meetings of the Central Midwives Board were held at Caxton Hall Westminster, on June 14th, 15th, and 16th with Sir Francis H Champneys in the chair A number of midwives were struck off the roll, the following charges, amongst others, having been brought forward Neglecting to make use of the antiseptic precautions prescribed by Rules E 3 and 7, the presentation being abnormal the midwife did not explain that the case was one in which the attendance of a registered medical practitioner was required as prescribed by Rule E 20 (3), the presentation being as aforesaid she did not hand to the husband or the nearest relative or friend present the form of sending for medical help properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 19, the child being stillborn and no registered medical practitioner being in attendance at the time of birth the midwife neglected to notify the local supervising authority thereof, as required by Rule E 21 (1) (*c*) Not being scrupulously clean in every way, as required by Rule E 1 That the midwife did not when attending her patients wear a clean dress of washable material that can be boiled such as linen cotton, &c , and over it a clean washable apron or overall, as required by Rule E 1 The placenta and membranes not having been completely expelled two hours after the birth of the child, the midwife did not explain that the case was one in which the attendance of a registered medical practitioner was required, as prescribed by Rule E 20 (3) That being engaged to attend as a midwife at a confinement, and being summoned to the patient to conduct the confinement the midwife was guilty of misconduct in that she arrived at the patient's house drunk and incapable of rendering any assistance, that during her subsequent attendance as a midwife on the patient she neglected to take and record the pulse and temperature of the patient at each visit as required by Rule E 13. The midwife's appliances being dirty and ill kept, contrary to Rule E 1 and she did not keep her register of cases as required by Rule E 23

BRITISH RED CROSS SOCIETY —The secretary s monthly report for May on the County of London Branch of this society is not marked by any very striking feature, but disappointment is expressed that members from other divisions have not taken advantage of the opportunities available in Marylebone and Westminster for special training in air raid relief duties At the Weir V A D Hospital, Kensington, classes have been inaugurated for instruction in X ray work as there is a demand for X ray operators It is also pointed out that applications for practical hospital training are far short of the opportunities now available and that it is found impossible to fill the vacancies at most of the hospitals where Red Cross members are admitted

LITERARY INTELLIGENCE —The Crown Prince of Serbia has given his photograph for reproduction in a book which will shortly appear written by Mr and Mrs James Berry, Mr W L Blease and other members of the party, entitled The Story of a Red Cross Unit in Serbia and has allowed the volume to be dedicated to him The book which is to be published by Messrs J and A Churchill deals with the recent history and the aims of the Serbs as well as with the exciting travelling and other experiences of the mission the establishing of hospitals sanitation and the treatment of a severe epidemic of typhus It tells of the Austrian invasion and shows how the unit fell into the hands of the enemy The volume is illustrated by photographs taken by various members of the party

A MIDWIVES BILL FOR IRELAND —At a meeting of the President and Fellows of the Royal College of Physicians of Ireland held on June 16th the College adopted a resolution urging on the Government the pressing necessity which exists for the passing of a Midwives Bill for Ireland which is now the only part of the United Kingdom without legislative control of midwives Such a Bill is needed to protect lying in women, to control infant mortality, and to enable Irish trained midwives to take their proper place in the ranks of the registered midwives of the United Kingdom

PRESENTATIONS TO MEDICAL OFFICERS —On June 14th at the Ford Military Hospital Plymouth Major Reginald H Lucy R A.M C (T) was presented with a silver salver suitably inscribed by his professional colleagues on the occasion of his relinquishing his commission Lieutenant Colonel H Woolmington Webber R.A.M C (T) the commanding officer made the presentation —A silver flask, inkstand and Treasury note case suitably inscribed were presented to Lieutenant Colonel John Kyffin R A M C (T), Officer Commanding 5th Southern General Hospital For s month on June 14th by the Sergeants Mess on the occasion of his departure for foreign service. Major R. A. Dove, Major C. A. Scott Ridout, Captain C. H. Saunders, Captain M. H. Way, Captain H. B. Taylor Morgan, and Captain H. Lloyd Driver from the same hospital, are accompanying him to a hospital abroad.

RESEARCH DEFENCE SOCIETY.—On account of the war the annual general meeting of the Research Defence Society has been postponed till the autumn.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual general meeting of this association will take place at the offices of the association, 9, Copthall avenue, London, E.C., on Friday, July 7th, at 4 P.M.

HOSPITAL SUNDAY SPECIAL NUMBER OF THE "HOSPITAL."—The Hospital Sunday Special Number contains the usual useful summary of the hospitals and their special needs and gives the charitable public convincing data for soliciting their generosity. The striking summary entitled "A Single Year's Roll-call of the Sick," with its graphic representation of the nearly 2,000,000 patients treated at the voluntary hospitals and dispensaries of London and the infectious hospitals of the Metropolitan Asylums Board should leave no single British subject in doubt of the claim on him or her of Hospital Sunday.

THE HIGHER TRAINING OF MIDWIVES.—At the Mansion House on June 27th, at 3.30 P.M., the Lord Mayor will preside over a meeting the object of which is to assist the National Training School for District Midwives. The meeting will be addressed by Lord Balfour of Burleigh, Sir Dyce Duckworth, Lady Betty Balfour, and Dr. Barbara Tchaykovsky, and a statement will be made by Miss Alice Gregory on the progress of the British Hospital for Mothers and Babies, Woolwich.

DONATIONS AND BEQUESTS.—The late Sir Gerard Augustus Lowther, Bart., G.C.M.G., C.B., left by his will £1000 to St. George's Hospital.—By the will of the late Sir George Augustus Pilkington the testator left £1000 each to the Southport Infirmary and the Southport District Nursing Society.—By the will of the late Mrs. Sarah Halsted Sandford, of Sandford, Salop, the testatrix left among other legacies £[illegible] each to the Whitchurch Infirmary and the Alexandra Hospital, Rhyl.

THE BORDEAUX FAIR.—The town of Bordeaux has decided to inaugurate a Bordeaux Fair, which will be held in the splendid square of the Quinconces from Sept. 5th to 20th next. It will be open to all inventors in France, the colonies, and allied and neutral countries. The offices of the committee and of the administration are at the town hall, where application may be made for admission. The list of entries will be closed on July 20th next.

Sir Alfred Keogh, K.C.B., Director-General of the Army Medical Service, has been elected an Honorary Freeman of the Society of Apothecaries of London in recognition of his peculiar services to the State and the medical profession.

Dr. R. A. Fleming has been appointed on the Staff of Officers of the King's Body Guard for Scotland (Royal Company of Archers) in place of the late Dr. W. A. [illegible].

Parliamentary Intelligence

HOUSE OF COMMONS

WEDNESDAY, JUNE 21ST

Medical Men and Petrol Supplies.

Mr. Mo[illegible], Secretary to the Treasury, intimated that the Government would not proceed with Clause 11 of the Finance (No. 2) Bill, which provides for an increased duty on [illegible] motor cars. He said that the Government proposed to adopt another method for checking the consumption [illegible]. It was in contemplation that a Board of Control of the petrol stocks in the country would be set up and [illegible] would be issued on a permit. This permit would [illegible] a specified amount of petrol for a specified [illegible] a specified period. The consumer would have [illegible] duty of [illegible] for every gallon that the permit [illegible]. If he did not take it all the person [illegible] would be entitled to a refund. [illegible] permit [illegible]. The [illegible] Clause 11 [illegible]

BOOKS, ETC., RECEIVED

ARNOLD, EDWARD, London.

A Year Ago. Eyewitness's Narrative of the War from March 30th to July 18th, 1915. By Lieutenant-Colonel E. D. Swinton, D.S.O., R.E., and Captain Earl Percy. Price 2s. net.

BAILLIÈRE, TINDALL, AND COX, London.

A Text-book of Immunology and Serology for Students and Practitioners. By E. Simon, B.A., M.D. Third edition, revised and enlarged. Price 14s. net.

BRITISH DENTAL ASSOCIATION, Hanover-square, W.

Treatment in Germany of Gunshot Injuries of the Face and Jaws. Translated and Abstracted from Recent German Publications. By W. H. Dolamore, L.R.C.P., M.R.C.S., L.D.S. Price 5s. net.

CONSTABLE AND CO., LIMITED, London, AND HOUGHTON MIFFLIN COMPANY, Boston and New York.

Psychology of Relaxation. By G. T. Patrick. Price 5s. net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Nerve Injuries and their Treatment. By Purves Stewart, M.A., M.D., F.R.C.P., Temporary Colonel, A.M.S., and Arthur Evans, M.S., M.D., F.R.C.S., Captain, R.A.M.C. (T.). Price 8s. 6d.

HARRISON AND SONS, Pall Mall, W.

Links in a Chain of Research on Syphilis (Oxidation and Reduction). (Hunterian Lectures, 1916.) By J. E. R. McDonagh, F.R.C.S. Price 5s. net.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., London.

Abnormal Children. By Bernard Hollander, M.D. Price 3s. 6d. net.

LONGMANS, GREEN, AND CO., London.

Milk and its Hygienic Relations. By Janet E. Lane-Claypon, M.D., D.Sc. Lond., Assistant Medical Inspector under the Local Government Board. Price 7s. 6d. net.

WRIGHT, JOHN, AND SONS, Bristol.

T.R. Therapy in Pulmonary Tuberculosis. By William Barr, M.D., D.Sc. Glasg., D.P.H. Camb. Price 3s. 6d. net.

Pye's Surgical Handicraft. Edited and largely rewritten by W. H. Clayton-Greene, B.A., M.B., B.C. Cantab., F.R.C.S. Eng. Seventh edition. Price 15s. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARRETT, ADA, M.B., B.S. Manch., has been appointed Temporary Assistant School Medical Officer for Cheshire.

DONALD, C. W., M.D., F.R.C.S. Edin., Honorary Physician to the Cumberland Infirmary, Carlisle.

HICHENS, FRANK, M.D., B.S. Lond., M.R.C.S., L.S.A., D.P.H. Lond., Medical Officer for the Stithians District by the Redruth (Cornwall) Board of Guardians.

LAUDER, HELEN, L.R.C.P. & S. Edin., L.F.P.S. Glasg., School Medical Officer at Hyde.

ROBERTSON, W. H., M.B., C.M. Edin., Certifying Surgeon under the Factory and Workshop Acts for the Chirnside District of the county of Berwick.

SIBBALD, IAN GRAHAM, M.B., C.M. Edin., *pro tem.* Medical Officer of Health for the Crewkerne (Somerset) Urban District Council.

TEXFORD, R., M.R.C.S., L.R.C.P. Lond., Medical Officer to the Union and for the Parish by the Boston Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor.

BARNSLEY COUNTY BOROUGH.—Assistant Tuberculosis Officer and Resident Medical Officer at Mount Vernon Sanatorium. Salary £[illegible] per annum, with board, &c.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street.—Resident Surgeon. Salary £[illegible] per annum, with board, &c.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Resident Medical Officer and House Surgeon. Salary £[illegible] per annum and £[illegible] per annum respectively, with board, &c.

BOLTON INFIRMARY AND DISPENSARY.—Female Third House Surgeon. Salary £[illegible] per annum, with board, &c.

BRISTOL ROYAL INFIRMARY.—House Surgeons and House Physician. Salary at rate of £[illegible] per annum, with board, &c.

BURY INFIRMARY.—Junior House Surgeon. Salary £150 per annum, with board, &c.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £[illegible] per annum, with board, &c.

DUDLEY GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £[illegible] per annum, with board, &c.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Surgeon [illegible]. Salary at rate of £[illegible] per annum, with board, &c.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £[illegible] per annum, with board, &c.

HUDDERSFIELD ROYAL INFIRMARY.—Senior House Surgeon. Salary £[illegible] per annum, with board, &c.

[illegible] VICTORIA HOSPITAL FOR SICK CHILDREN.—[illegible] Salary £[illegible]

LEEDS CITY HOSPITAL FOR INFECTIOUS [illegible]

LONDON TEMPERANCE HOSPITAL, Hampstead road N W —Assistant Resident Medical Officer *for six months* Salary at rate of £120 per annum with board &c

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury —Locum Tenens Female Resident Medical Officer

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN Park place Cheetham Hill road —Female House Surgeon Salary £120 per annum with board &c

OXFORD EYE HOSPITAL.—House Surgeon

***PLYMOUTH SOUTH DEVON* AND EAST CORNWALL HOSPITAL**.—House Physician Salary £150 per annum with board &c.

QUEEN CHARLOTTE'S LYING IN HOSPITAL, Marylebone-road N W —Assistant Resident Medical Officer for four months and Senior Resident Medical Officer for following four months Salary at rate of £60 per annum first four months and £80 per annum following four months with board &c

QUEEN'S HOSPITAL FOR CHILDREN, Hackney road, Bethnal Green E —House Physician and House Surgeon for six months Salary £100 per annum each with board &c

ST BARTHOLOMEW'S HOSPITAL, E C —Assistant Administrator of Anæsthetics

SHEFFIELD ROYAL INFIRMARY —*House Physician. Salary £120* per annum with board &c

SOUTH LONDON HOSPITAL FOR WOMEN —Female Pathologist Salary at rate of £250 per annum

SUNDERLAND ROYAL INFIRMARY —Female House Surgeon Salary £150 per annum with board &c

WROTHAM PARK KENT 12TH MOUNTED BRIGADE FIELD AMBULANCE (T F) —Two Medical Officers

THE Secretary of State for the Home Department gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act *for County Court Circuit No 50* attached more particularly to the Eastbourne Hastings and Rye County Courts Applications should reach the Private Secretary, Home Office not later than July 1st next

THE Chief Inspector of Factories Home Office, London S W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Acts at Ormskirk Lancashire

Births, Marriages, and Deaths.

BIRTHS

BURGESS —On June 19th at Milverton Lodge Victoria Park Manchester the wife of Arthur H. Burgess Major R A.M C , of a daughter

ELLIS —On June 15th at Wheeleys road Edgbaston Birmingham the wife of F W Ellis, Lieutenant Colonel R A M C (T) of a son

FFRENCH —On June 15th at 44 Ashley gardens S W the wife of Major E G Ffrench M D F R C S E of a daughter

HAY —On June 17th at 14 Vicarage gardens Kensington W the wife of Dr K. R Hay *of* a daughter

JULER.—On June 5th at Cavendish square W the wife of F A Juler F R C S of a daughter

JUSTICE.—On June 15th. at Palace-gardens terrace W the wife of Major W A. Justice I M S Madras of a son

PAYNE.—On June 12th, at Lansdowne House, Alton Hants the wife of O V Payne M B B C of a son (still born)

RODGERS —On June 13th at Hollins lane Winwick Warrington the *wife of Fred Rodgers M D Major R A M C (temporary) of* a son

SPEIRS —On June 13th at Old Kent road S E , the wife of T Orr Speirs M D Glasg of a son

THURLOW —On June 10th at Easdale Frant road Tunbridge Wells to Dr and Mrs Basil L Thurlow a daughter

MARRIAGES

ADAMSON—TURNBULL.—On June 15th *at St Mary's* Harrow-on the *Hill* J D Adamson Lieutenant R A M C to Edna Turnbull eldest daughter of Mr and Mrs J H Turnbull of Winnipeg Canada.

CAMPBELL—GALLAGHER —On June 19th at St Peter in Chains Stroud Green Lieutenant George A. Campbell R A M C to Sara (Cissie) eldest *daughter of Sir William* and Lady Gallagher

COX—COATE.—On June 14th at St Matthew's Church Luton Beds William Joseph Cox M B , Ch B *D P H to Frances Henrietta Coate youngest* daughter of the Rev Harry and Mrs Coate of St Matthew's Vicarage Luton

CROWTHER—WOODLEY —*On* June 14th at Emmanuel Church Plymouth Captain Charles Rowland Crowther R A.M C to Kathleen Olive Mary daughter of the late George W A. Woodley of Stonehenge Natal *and niece* of Mr and Mrs Woodley of Evadne Mannamead Plymouth

FRASER—BAILEY —On June 13th, at *Golden Hill Parish Church* by the Rev J H Bailey Vicar of Norton Letchworth brother of the bride and the Rev Canon Hughes Rector of Tarporley Captain Forbes *Fraser* R A.M C *of Bath to Agnes Mary* daughter *of* the Rev G R Bailey Vicar of Golden Hill and Rural Dean of Newcastle and Mrs Bailey

LINK—FOWLER —*On June 17th* at Ilford O C Link M B B S R A.M C to Grace Madeline eldest daughter of the late W Fowler and Mrs Fowler Ilford

MACKAY—TRAIN —At the United Free Church Southend Argyll on June 1st by the Rev J G Train (formerly of Buckhaven Hull and Norwood S E) Duncan Matheson Mackay M D Hull to Anna Gilkison third daughter of the Rev J G Train

SHELLEY—RASHLEIGH —On June 17th at St Matthias's *Earls Court* Captain L. W Shelley R A M C to Beryl Marie Rashleigh

DEATHS

ROBERTS —On June 15th at The Acacias Hayling Island Frank Ernest Roberts M R C S *Eng* aged 63

N B —A fee of 5s is charged for the Insertion of Notices of Births Marriages and Deaths

Notes, Short Comments, and Answers to Correspondents.

THE DESTRUCTION OF COCKROACHES

IN reply to correspondents who suggest that a mixture of equal parts of flour and plaster of Paris sprinkled on the floor is a simple and effective remedy against cockroaches Dr J J H *Holt* writes "Plaster of Paris mixed with flour was one of the first remedies I *tried with the* addition of a supply of water in a separate dish No effect was observed in over 100 hours' observation and the remedy appears perfectly useless It is one of a number of methods being tried every night in thousands *of houses* without result " Dr Holt adds that Professor H Maxwell *Lefroy* recommends (Bull No 23, Agricultural Research Institute Calcutta 1911) *borax* "as a deadly poison to cockroaches if put under cupboards &c , where cockroaches dwell " Dr Holt found in his experiments that borax had no appreciable effect "cockroaches could crawl upon it for over 100 *hours and be quite lively* at the end of that time On the other hand, boracic acid had a distinct effect, killing, as stated, in 25 hours contact ' Dr *Holt* suggests that the observations which he has made upon the cockroach ' might serve in dealing with *other* insect pests, especially lice, in the army The need for a dry dusting powder has been expressed I think sodium fluoride *would probably be found to answer For the liquid series* wood naphtha is one of the most effective remedies and has the advantage of being less volatile than petrol " In reply to the letter of Mr E Howarth F Z S , Dr Holt writes "It would have been more *useful if the writer had definitely* specified what are the active ingredients of the remedy which he recommends Blattis is much like the pastes mentioned in my article compounded of flour, water, and *phosphorus I could point to many instances* where it has been patiently tried and failed Similarly with Dalmatian insect powder All cockroach poisons first turn the insects on their backs when, as another correspondent *remarks they can be swept up in the morning* But if examined carefully they will be found to be stupefied not dead, in such a short time If the cockroaches remain in contact with the *powder long* enough *it certainly will kill them* but the powder acts chiefly in virtue of its volatile oil as, if the oil is extracted with ether, the remaining powder is much less fatal "

WANTED, A HOME

To the Editor of THE LANCET

SIR,—I want to find a place for two months or so *for a* strong healthy young woman who expects her accouchement in the early autumn She will I understand be received *into Queen Charlotte's Hospital*, but not until shortly before the expected birth of the infant In the meantime she is unable to remain in her present situation or to go home Any suggestions *for assistance will be gratefully received by*

Yours faithfully

June 15th, 1916

M D

ENTERPRISE IN MEDICINAL HERB GROWING

A CORRESPONDENT calls attention to the necessity for enterprise if *the culture of medicinal* herbs is to be *made a* financial success in this country An example of such enterprise was given in a recent issue of the *Garden* For many years a poorly dressed man used *to offer to a* British wholesale *drug* house a quantity of hemlock seed at half the price generally asked Questioned as to how he managed to sell it so cheaply, he replied '*Early in the year I fill my pockets with seed and go out into the country* Whenever I come across a good wide hedgerow I sow the seed all along it Later in the year when the plants have grown and seed has formed I again visit the *hedges and call* the attention of farmers to the noxious weed offering to cut it out and take it away at the modest price of 1s a hedge So you see I get my land for nothing and, *in addition, get paid for cutting* my own harvest

CHAUFFEURS FOR MEDICAL MEN

HEARING of the difficulty in which medical men are placed for chauffeurs at the present time ' Engineering Graduate' writes to offer his services He has had blackwater fever and is exempt from military service He claims to be a steady driver and willing cheerfully to drive any doctor in the evenings *and night* as well as to assist him in surgical work He now holds a position as acting paymaster which he would sacrifice in order to assist a surgeon in his work

SURFACE DRAINS

An Old Subscriber states the following case "In a small country village where enteric fever has been rather prevalent for some years past and the district council are anxious to abate the nuisance, would the following procedure be deemed efficient and considered sanitary? It is not considered feasible to construct a main sewer with branch drains, no water being available for flushing It is proposed to drain away the surface water and other liquid matter to a cesspool erected a considerable distance to the rear of the cottages and to run surface drains or paved channels from each house therein The cesspool to be covered in and to be cleaned periodically" The information given is insufficient to enable us to form a satisfactory opinion The number of houses involved in the scheme, the distance between the houses and the cesspool, the nature of the ground covered by the surface drains, what fall is available—are a few of the data requisite to the proper understanding of the problem Speaking generally, surface drains are ill suited for the purpose indicated, as it is undesirable that children should play in the neighbourhood of such open channels Surface drains are liable to attract large numbers of flies which may cause contamination of foodstuffs in the adjoining houses Upon the whole the suggested scheme cannot be considered to be either efficient or sanitary

LAWRENCE'S "TREATMENT OF HERNIA"

THE book of which mice have robbed the Royal Society of Medicine was (Sir) William Lawrence's essay entitled 'The Treatment of Hernia," first published in 1806 The author was only 23 years old at the time and less than a year a member of the College of Surgeons of England, but the essay was awarded the Jacksonian prize and went through five editions

A H B A —Section 5 (a) of the Local Government (Emergency Provisions) Act 1916, gave effect to the recommendation of the Committee on Retrenchment that the fee of a medical practitioner for a notification of infectious disease should be reduced from 2s 6d to 1s The Act came into force on May 17th, and its provisions are not retrospective

COMMUNICATIONS not noticed in our present issue will receive attention in our next

Medical Diary for the ensuing Week.

SOCIETIES

ROYAL SOCIETY Burlington House London W

THURSDAY —4.30 P M Papers:—Prof J Joly: The Genesis of Pleochroic Haloes.—Mr C T R. Wilson: On some Determinations of the Sign and Magnitude of Electric Discharges in Lightning Flashes —Dr T Goodey: Further Observations on Protozoa in Relation to Soil Bacteria (communicated by Prof F W Gamble) —Dr M C Stopes New Bennettitean Cones from the British Cretaceous (communicated by Dr A. Strahan) —And other papers

ROYAL SOCIETY OF ARTS John-street Adelphi W C

THURSDAY —4 30 P M Paper:—Sirdar Daljit Singh C S I The Sikhs

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE West London Hospital, Hammersmith, road W

MONDAY —2 P M Medical and Surgical Clinics X Rays Mr Gray: Operations Mr B Harman: Diseases of the Eye Dr Simson: Diseases of Women

TUESDAY —2 P.M Medical and Surgical Clinics X Rays Mr Baldwin: Operations Dr Banks Davis: Diseases of the Throat, Nose and Ear Dr Pernet: Diseases of the Skin

WEDNESDAY —10 A M Dr Saunders: Diseases of Children Dr Banks Davis: Operations of the Throat, Nose and Ear 2 P M Medical and Surgical Clinics X Rays Mr Pardoe: Operations Dr Simson: Diseases of Women

THURSDAY —2 P M Medical and Surgical Clinics X Rays Mr Gray: Operations Mr B Harman: Diseases of the Eye

FRIDAY —10 A M Dr Simson: Gynaecological Operations 2 P M. Medical and Surgical Clinics X Rays Mr Baldwin: Operations Dr Banks Davis: Diseases of the Throat, Nose and Ear Dr Pernet: Diseases of the Skin

SATURDAY —10 A M. Dr Saunders: Diseases of Children Dr Banks Davis: Operations of the Throat, Nose and Ear Mr B Harman: Eye Operations 2 P M Medical and Surgical Clinics X Rays Mr Pardoe: Operations.

NORTH EAST LONDON POST-GRADUATE COLLEGE Prince of Wales's General Hospital Tottenham N

MONDAY —Clinics—2.30 P M Surgical Out patients (Mr [illegible]) 2.30 P M. Medical Out patients (Dr T R Whipham): Gynaecological Out patients (Dr [illegible]) 3 P M. Medical In patients (Dr R M Leslie)

TUESDAY —2.30 P M Surgical Operations (Mr Carson) Clinics:—Medical Out patients (Dr A. G Auld) Surgical Out patients (Mr Howell Evans) Nose Throat and Ear Out patients (Mr C H Hayton) Radiography (Dr Metcalfe) 3.30 P.M, Medical In patients (Dr A. J Whiting)

WEDNESDAY —Clinics —2.30 P M Throat Operations (Mr C H Hayton) Children Out-patients (Dr T R. Whipham) Eye Out-patients (Mr R. P Brooks) Skin Out-patients (Dr H W Barber) 6.30 P M., Eye Operations (Mr R P Brooks) 4.30 P M. Special Demonstration Mr A. S Worton Selected Eye Cases

THURSDAY —2.30 P.M. Gynaecological Operations (Dr A. E Giles) Clinics:—Medical Out-patients (Dr A. J Whiting) Surgical Out-patients (Mr Carson) Radiography (Dr Metcalfe) 3 P M. Medical In patients (Dr R M. Leslie)

FRIDAY —2.30 P M. Surgical Operations (Mr Howell Evans) Clinics—Medical Out-patients (Dr A. G Auld) Surgical Out patients (Mr E Gillespie) Eye Out-patients (Mr R. P Brooks)

THE THROAT HOSPITAL, Golden square W

MONDAY —5 15 P M Special Demonstration of Selected Cases

THURSDAY —5.15 P M Clinical Lecture.

ROBERT BARNES HALL, 1 Wimpole-street W (by permission of the Royal Society of Medicine)

WEDNESDAY —8 P M Mrs Mary Scharlieb M D Inherited Disease in Children (illustrated by the epidiascope) (Lecture II)

The following magazines, journals &c. have been received —Journal of Obstetrics Proceedings of the Royal Society of Medicine Annales de Medecine Tropical Diseases Bulletin, Modern Hospital Bulletin of Johns Hopkins Hospital Bulletin of the Office International d Hygiene Publique American Journal of Orthopaedic Surgery Albany Medical Annals Ellingwood's Therapeutist &c

EDITORIAL NOTICES

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR" and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention should be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, *and when accompanied by blocks it is requested that the name of the author and if possible of the article, should be written on the blocks to facilitate identification*

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed ' To the Manager

We cannot undertake to return MSS not used

MANAGER'S NOTICES

THE INDEX AND TITLE-PAGE TO THE LANCET

January to June 1916

IN view of the Government restrictions upon the supply of paper, and the shortage of paper quite apart from these restrictions we cannot include, as usual in all the copies of THE LANCET the Index and the Title page which are due at the end of this month The Index and Title page will of course be prepared and copies will be supplied gratis to subscribers who intimate their wish to receive them to the Manager THE LANCET Office 423 Strand London W C Such application should please be sent in at once

TO SUBSCRIBERS

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices 423 Strand London W C are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices and consequently inquiries concerning missing copies &c should be sent to the Agent to whom the subscription is paid and not to THE LANCET Offices

Subscribers by sending their subscriptions direct to THE LANCET Offices will ensure regularity in the despatch of their Journals and an earlier delivery than other agents are able to effect

THE COLONIAL AND FOREIGN EDITION is printed on thin paper [illegible]

TO COLONIAL AND FOREIGN SUBSCRIBERS

Subscribers abroad are particularly requested to note the rates of subscriptions given on page 4

The Manager will be pleased to forward copies direct from the Offices to places abroad at the rates shown whatever be the weight of any of the copies so supplied

NEWSPAPERS FOR NEUTRAL COUNTRIES

Newspapers are not at present being sent forward to neutral European countries unless posted direct from the office of publishers or newsagents who have obtained permission from the War Office for this purpose The Publisher of THE LANCET has obtained the required permission, and he will forward copies direct from the Office to any neutral country on receipt of instructions

METEOROLOGICAL READINGS

(Taken daily at 8.30 a m by Steward s Instruments)

THE LANCET Office June 21st, 1916.

Date	Barometer reduced to Sea Level and 32°F	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb.	Dry Bulb	Remarks.
June 15	30·070	N.E.		111	61	49	50	55	Cloudy
„ 16	30·260	N E		115	63	47	45	50	Cloudy
„ 17	30·214	E		116	66	43	46	51	Cloudy
18	30 010	N W	..	103	65	48	47	49	Cloudy
„ 19	29 891	N W	..	105	68	49	51	54	Overcast
„ 20	30 120	W		123	67	51	48	55	Fine
„ 21	30 174	W		115	63	51	53	59	Cloudy

Communications, Letters, &c., have been received from—

A —Mr J Vere Arkle Lond Dr E L Ash, Lond. A S Lieutenant Colonel W Alpin I M.S Author Dr Russell Andrews Lond. Anglo American Pharmaceutical Co Croydon Miss Lena Ashwell Lond. Aberdeen Medico-Chirurgical Society s Library

B —Dr F A. Brooks, Brighton Messrs T B Browne Lond Major T W Buckley R.A.M C Bolingbroke Hospital Lond Secretary of Barnsley County Borough, Town Clerk of Mairie de Bordeaux Mr M Brooks Ipswich Sir Henry Burdett, Lond Miss C S Bremner Lond.; British Hospital for Mothers and Babies Woolwich Secretary of Messrs Charles Barker and Sons, Lond Captain A Barr A V C Birmingham Medical Institute Hon Librarian of Messrs W H Bailey and Son Lond. Dr S A Bonnerjee Lymington Messrs Burroughs Wellcome and Co Lond Bristol Royal Infirmary, Secretary of Birmingham and Midland Eye Hospital Secretary of

C —Mr F M. Cartaigne Lond Mr R Coombe Exeter Messrs J and A Churchill Lond. Church of England Temperance Society Lond Secretary of Dr C W Chapman Mill Hill Major W J Collinson I.M.S Mr Joseph Cunning Lond. Mr W E Le Gros Clark Lond Mr J Jackson Clarke Lond Clerical Medical and General Life Assurance Society Lond Mr J F Colyer Lond Chadwick Trust Lond. Secretary of Central Midwives Board Lond Secretary of C F P C W C Mrs M Cornwall Edinburgh Surgeon F L Cassidi R N Consumption Sanatorium of Scotland Bridge of Weir Medical Superintendent of Rev G H Culshaw Iver Heath Mr W Cowan Glasgow

D —Messrs W Dawson and Sons Lond Mr R Donald Lond Mr F N Doubleday Lond Dr Vincent Dickinson Lond Mr R Dunstan Paignton Messrs Dale Reynolds and Co Lond

E —Dr T Eastes Folkestone E M

F —Messrs Henry Frowde and Hodder and Stoughton Lond Messrs Fannin and Co., Dublin Dr H B Fantham Cambridge Messrs Fletcher Fletcher and Co Lond Mr Rupert Farrant Lond Ferrovie dello Stato Servizio Sanitario Rome Factories Chief Inspector of Lond Dr Fortescue Fox Lond.

G —Mr Kenneth Goadby Lond Dr Major Greenwood Lond Mrs. Grieve Chalfont St Peter Mr F W Hey Groves Bristol Dr W S Greenfield Elie Mr J T Greenidge Rugby Dr C D Green Bournemouth Mr H Green Lond

H —Major A F Hert. R A M C Mr H L. Hughes Banchory Dr F Heatherley Oswestry Mr E M Harvey *Lond* Miss Hollis *Freshwater* Staff Surgeon J Keogh Humphry R N V R Messrs Hirschfeld Bros, Lond.; Captain G S Hughes R.A.M C Mr J B Hancock Hurst Green Dr C W Hutt, Brighton Mr F Hasler Lond. Messrs A. Heywood and Son Manchester Dr R W Harper Lond Mr W Huntingdon St. Andrews Messrs C J Hewlett and Son Lond Dr Bernand Hart, Lond; Miss A M Harding Wells Mr Charles J Heath Lond; Dr H L Hamilton Southampton Mr W S Humphreys Longford Lieutenant Colonel F W H Davie Harris, Lond. H A. W

J —Mrs M L Jones, Lond. Monsieur Jowell Lond.

K.—Dr A. B Kelly Glasgow Messrs D J Keymer and Co, Lond Mrs A Kroho Lond Mr Stanley B Kimbell Lond.

L.—Dr H G Lawrence Lond London and Counties Medical Protection Society Lond Messrs Lee and Martin Birmingham Messrs Loescher and Co. Rome Local Government Board Lond Secretary of Professor J N Langley Cambridge Lieutenant J H Lloyd, R A.M C (T) Dr T Laffan Cashel

M.—Dr A T MacConkey Elstree Dr D McCarrol. Southampton Manchester Children s Hospital Secretary of Mundesley Sanatorium Secretary of Lieutenant J MacArthur R A.M C Maltine Manufacturing Co Lond Maruzen Co Tokyo Mr J R R McDonagh Lond Mr J N W MacAlister Lond Dr J A Murray Lond Dr Hugh A Macewen Lond Miss Ida Meller Lond Messrs Mabie Todd and Co, Lond. Sir Berkeley Moynihan Leeds Mr F McClure, Belfast Medical Research Committee, Lond. Mr G Mayall Bolton Dr F J McCann Lond Medical Supply Association Lond. Messrs Maw Son and Sons Lond Marylebone Medical War Committee, Lond. Hon Secretary of Dr H Crichton Miller, Lond

O —Mr T T O Farrell *Dublin; Oxford Eye Hospital Acting Hon Secretary of Dr T. Orr* Lond.

P —Dr Richard Purdon Belfast Mr G P M Pollard Moffat Mr H B Pickard Southbourne Lieutenant D S Page R.A.M C Sir G H Philipson Newcastle on Tyne Mr W B Priest Wrexham

R.—Dr M J Ryan Crumlin Dr J H Reynolds Lond Mr L J Roberts I M.S Swansea Messrs. J D Riedel Co. Lond. Royal Albert Edward Infirmary Wigan Secretary of Messrs F J Rell and Co Radcliffe Library Oxford Sub-Librarian of Captain T Russell Ritchie N Z M C Lond Royal Society Lond. Royal Society of Arts Lond Dr Louis Renon Paris Dr R Rentoul Liverpool Dr Harold F Renton Oldham Royal College of Physicians Lond Assistant Librarian of Mr Henry Randle Southsea Royal Academy of Medicine in Ireland Dublin

S —Mr G Bradley Smith *Lond.* St Mary s Hospital Medical School Librarian of Dr S Samuel Leeds; Captain C O Stallybrass R.A.M C; Mr J O Soames Lond. Lieutenant G K Stephenson R A M C Solac, Ltd, Lond; Messrs Saward Baker and Co Lond.; Dr Robert Saundby Birmingham Mr A. C Sterry Croydon Dr A A F Steen Glasgow Dr G F Darwall Smith *Lond* Mr A. G Stewart Lond. Dr H Harold Scott

T —Mr W Thornton Westcliff-on Sea Trimurti Co *Lond* Mr L L Thain Ewyas Harold; Mr W R K. Thomson Gateshead-on Tyne; Tropical Diseases Bureau Lond., Acting Librarian of

U —University Library St Andrews, Librarian of

V —Messrs C A Vandervell and Co Lond Victoria Hospital for Sick Children Hull Assistant Secretary of

W —Mr R P Weldon Cork; Mr W A Ward Richmond; Dr Norman Walker Edinburgh Mr W I de C Wheeler, Dublin Dr Percy Woollatt West London Hospital Post Graduate *College Dean of W D H;* Dr S A K Wilson, Lond.; Mr W P Walsh Lond; Messrs J Woodhead and Sons Huddersfield Messrs Willings Lond.; Mr J W Thomson Walker Lond. Captain A C Williams, R.A.M C (T) Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Ardath Tobacco *Co* Lond Messrs Arnold and Sons Lond *Sir Clifford Allbutt* K C B Cambridge *Dr E Allen Harrogate* A N F

B —Mr J Birt Lond; Bootle Borough Hospital, Secretary of Mr G Sherman *Bigg Lond* Mr *B E G Bailey* Midhurst Dr N Baxter Stockton on Tees British Drug Houses Lond Secretary of Mrs Behnke Lond.

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